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Editorial Comment . . .

New Opportunities

THE MODERN firm requires a staggering amount of information in a great variety of arrangements if it is to function economically and meet the strong forces of competition. This need for fast, accurate information is not peculiar to the financial area alone. All functions, such as engineering, purchasing, and certainly the operating production supervision, require reports on the different phases of the operation which together make up the complete producing and distribution unit.

One of the most significant and rapid changes that is taking place in business today is in the means by which these data are being processed. Over the years, the increasing appetite for meaningful facts has been met by better systems that have increased the efficiency of each man's effort. To speed the processing of figures, adding machines, desk calculators, and punch card equipment came into being. Finally, with the advent of complicated machinery for mass warfare, and the breaking of sound and space barriers, the business world inherited some tools with names that were new and strange to the business man. One of these inventions was a series of machines called "electronic data processing"—which had a heart called a computer. This mechanical monster had a phenomenal digestive system. It could gobble information faster than it could be fed and spew it back out in a great variety of forms and arrangements. In a short period of time, this electronic marvel was endowed with superhuman powers. It was held in awe as the answer to all troubles by many who were being submerged in the complexities of modern business. However, it was not long before the modern marvel was being viewed with suspicion. By some it was regarded as a threat to their future position—they were being replaced. By those who usually resist any change, it was dismissed as another gadget that would have a short life and end up in the junk heap. Perhaps the greatest disenchantment came to those who embraced this invention as a panacea for all their troubles. They sadly discovered that these fantastic machines were not human. True, they devoured a great mass of data, but this diet had to be specially prepared if the electronic dance was to have any meaning to the audience. In other words, the men who hoped to use this equipment found out that they first had to devise a good system and prepare a program that would be acceptable and understood both by themselves and the machines.

Since the first electronic data processing unit was built, a better appreciation of the potential uses of these machines has been acquired by business men. However, the machines themselves are changing so rapidly that one must review periodically advances that have been made in their design. A few years ago, computers were large and very expensive pieces of equipment that were only feasible for use in a few companies. In the last few years, several manufacturers have entered the field and great advances have been made in redesigning machines that are economically feasible for use in much smaller companies.

A recent issue of *The Financial Post* pointed out that the trained professionals needed to install and operate this data processing equipment are already in short supply. It is estimated that, in ten years, this field will need as many people as there are practising lawyers or public accountants in the whole of Canada at present. There is a rather depressing commentary for accountants in this article. The experts advise those who would train for the new profession not to specialize in accounting because accountants are too concerned with details; along with a certain level of intelligence, one of the prime requisites for this work is imagination.

It would be a pity if accountants, through lack of flexibility, should bar themselves from this challenging and growing field. If a man does not have the vision or imagination to work in the electronic data processing field, it is probable that he would also make a poor cost accountant. Unless an accountant can see the broad picture of a business and its many inter-relationships, it is likely indeed that his contribution to the organization will be dry accounting details presented with no imagination. Such a man does little to aid management and will most likely never enter its ranks.

The field of computers is a challenge that is open to accountants; knowledge of accounting would be a valuable and almost indispensable asset in many of the areas that are being created by electronics. Certainly in some phases of accounting an emphasis on detail is necessary, but let us not become so preoccupied with detail that it becomes an end in itself and obscures our vision to new and interesting endeavours.

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FORMULA FOR DISTRIBUTION OF TRANSPORTATION COSTS

by H. W. Cates, Jr.,
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Boston, Mass.

In trying to solve the intricate problems of distribution, many managers are reluctant to make use of the mathematical tools that are available. In this article, the author points out that many of the formidable-looking equations are in reality simple to understand and easy to apply.

THE EQUATION below is an answer to cost distribution for a company that has ten branches and twenty-two distributing stops for its trucks. Though it may resemble an atomic missile description to some readers, it is really a very simple device. Actually it may be an answer to supply you with a method of making cost distribution. As it is applied here it solved a knotty problem of distribution of costs related to distributing one company's major product.

$$CD_1 = \frac{P_i \, D_i}{\sum^{n} P_j \, D_j} \cdot TC$$

when $i = 1,2,3,4,\ldots.n$

The purpose of this paper is to show, with the use of mathematics, how various factors relating to transportation costs may be weighted to reflect a truer relationship of costs applied to any one branch's proportionate share of the TOTAL COST in a multi-location operation.

Making cost distribution to outlying branches provides many varying problems and solutions. These costs are actually gaining in importance and many times determine the geographical limits of the marketing area due to the subsequent pricing structure which must stay competitive to market the product.

Heckert and Miner say, in their book *Distribution Cost,* "In many concerns it constitutes the major cost and in most industries it is a factor of major proportion. If a business is to succeed, it must exert no less effort toward the efficient direction and control of distributing costs than toward production costs . . ." They go on to emphasize that Marketing and Accounting Executives must work together in controlling the various areas of marketing and distribution costs and expenses. One of these areas is transportation and this is the area covered primarily by this paper.

The author is a graduate of North Texas State University and holds an M.B.A. degree from Southern Methodist University, Dallas. Prior to joining General Electric Company, he worked in methods and procedures for five-and-a-half years, more than three of them with UNIVAC. He also did some private consulting work in systems design for manufacturing operation and has participated in several large-scale computer and Linear Programming applications on product mixing and feed blending. He is a member of the National Association of Accountants, American Management Association and National Machine Accountants' Association.

Apportioning these costs to each outlying branch, particularly when: distance, amount of goods delivered, use of company owned or public carrier trucks, are factors, the accountant is presented with several serious considerations. What should be his method of applying costs to each branch?

Recently a company with just such a problem put the question to the writer to solve this problem with an equation which would balance distribution expenses per branch with the total distribution cost.

They were using a fixed sum of X¢ per mile for the total miles traveled during the month by all company trucks and weighting each branch's share by the number of stops at that branch. The problem with this was that some months there were more actual costs than distribution and other months more distribution than actual costs.

An added factor which was even more disturbing was that branches receiving a greater quantity of goods, with corresponding larger amount of sales were bearing the cost per branch load on the same basis as smaller receiving and selling branches. This resulted in the larger branches not bearing their real share of the distributing cost. The smaller branches thereby were not showing a reasonable profit because of the burden of paying an arithmetic average of the estimated "per mile" cost which favored the larger branches. This was especially true since most of the time a truck would stop at three or four branches on a round-trip "route".

The result this company wanted was simply:

1. To distribute actual costs which would guarantee a monthly balance between the amount of actual cost and the amount of distribution.
2. Prepare mileage in such a manner as to reflect real miles per branch and not be concerned with how many other stops or distances are to be covered on any one trip.
3. That the amount of goods delivered at each branch be weighted so that big users would bear a larger proportionate share of the cost than the smaller users.

In order to prepare the math model which would satisfy these needs we had to define the problem in several statements as follows:

1. Each branch must bear its own true portion of actual cost regardless of its distance, or position on the distribution route, from the Home Office or central distributing point.
2. Each "distribution trip" be accounted for in the equation as to the total cost[1] for that trip.
3. That the branches requiring more service or receiving more goods share a proportionately greater cost based on the amount of goods received.
4. That each branch, insofar as possible, be weighted so as not to burden or be burdened by other branches as to its distance along the route from the Home Office or main distribution point.

[1]Total cost shall be defined as including all direct and indirect cost related to equipment and driver to perform a distributing "round-trip"; e.g., truck depr., tires, fuel, insurance, salary, etc.

SOLUTION:

Our first problem was to prepare each Branch a location so that it would assume a relation to the Home Office and other branches somewhat like the wagon wheel location in Figure 1.

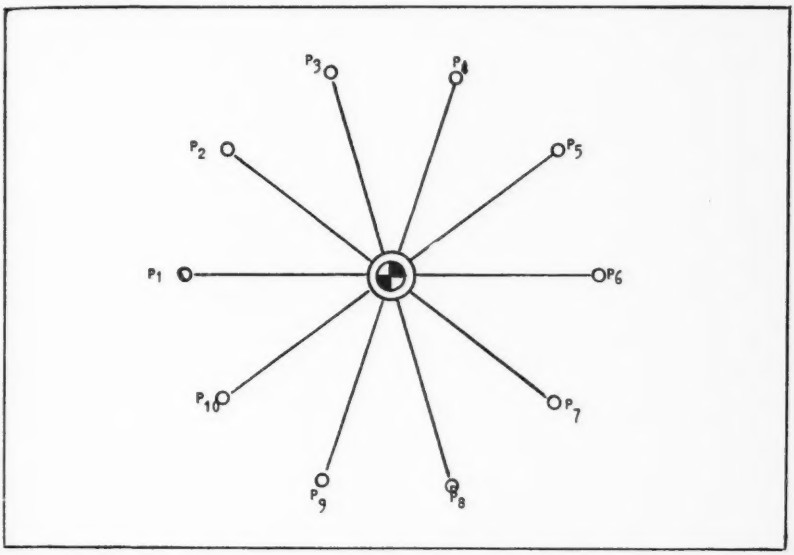

FIGURE 1

There was a very definite reason to present each branch in this manner. There are also two others which reinforce this choice of solutions.

1. With this method of establishing distances from the home office we can, by use of the formula, equalize the distance from the Home Office as though every trip was made to one point only, whether it was a single stop or a "route trip".
2. Some of the smaller outlying branches now have the opportunity to compete with the larger branches in profit production since they are not taxed more heavily because of their greater distance and smaller amount of goods received.
3. Some of the larger, nearer branches take all, or most of a trip's load, due to their sales capacity. The wagon wheel location system will not allow them to "over-reflect" profits due to unproportionate and/or unrealistic cost distribution.

To set up the "wagon wheel" we simply determined how far the road distance was to *each* Point (Branch) via the shortest truck route from the Home Office. We then set up a chart as shown in Figure 2.

It should be stated here that these distances are a factor in establishing a relationship and a ratio and are *not in the least* related to the miles actually traveled on a truck trip, whether it makes one stop or several.

Code	Branch No. and City	Miles From Plant (Equation Value of Code)
P_1	Wichita Falls	147 Miles
P_2	Abilene	186 Miles
P_3	San Angelo	217 Miles
•		
•		
•		
•		
n		

FIGURE 2

Therefore, the substitution to the equation in actual figures will reflect P_1 as being 147 miles, P_2=186 miles, P_3=217 miles, etc.

Under the previous method of cost distribution, which involved only a specified amount per mile, the amount of goods actually delivered to a Branch had nothing to do with the distribution of costs.

The formula described in this article makes the "Amount of Goods Delivered" a very real part of the distribution of costs. The advantage of this goes back to similar arguments advanced in the "wagon wheel" method of establishing distances.

1. It gives the smaller branches a fairer-lower portion of the distribution of costs. This allows them to reflect a better profit on their sales.
2. The larger branches will have to pay a proportionately larger amount of the cost due to their greater use and sales. This reflects a more realistic profit for the large branch since it now has to share its cost on the same basis of the quantity of goods it receives.

Therefore in substituting real figures into the equation we will this time identify the branch by the amount or quantity of the product that is actually delivered at each branch as "D". Thus the values of "D" will vary with each trip. But, they may be set up from internal sales or movement orders which effect the transfer of goods from the Home Office or plant on a schedule similar to Figure 3.

Code	Branch No. and City	Qty. of Goods Delivered or Distributed. —D— (Units)
P_1	Wichita Falls	46,000 Units
P_2	Abilene	24,000 Units
P_3	San Angelo	30,000 Units

FIGURE 3

Now our substitution information is complete. Let us review its meaning and application to the equation or formula.

The mileage from the Home Office to a single branch is substituted for the P_i in the numerator. The amount or units of goods distributed to that single branch is substituted for D_i. (This unit can be dollars, pounds, square feet, cubic feet, gallons, board feet, etc., but it must be a *uniform* UNIT for all branches.)

The denominator is the sum (Σ) of a series of products arrived at by *adding* the products of $(P_1 \cdot D_1) + (P_2 \cdot D_2) + (P_3 \cdot D_3)$ etc. This is expressed mathematically by the sum of numbers ($\sum^{n}$) times the products of each Branch distance from the Home Office (P_j) times the goods delivered (D_j). Let me *caution* the reader *NOT* to merely add all the "P" distances and all "D" goods delivered and multiply these two amounts for your denominator. The explanation for this does not lie within the scope of this paper. It should be sufficient here at this point, only to say that at least one multiplication MUST be made for each branch which receives goods on any route trip. Then add the products for all the miles from the plant times amounts delivered for the denominator.

The expression . . . n (expressed orally—"to the nth") merely means to the end of the numbers you are involved with in an actual substitution. In other words, the weights or amounts of cost distributed would be relative to the TOTAL COST of a trip whether there was one stop (100% cost applied to that branch) or 50 stops (with cost applied by the equation), the "nth" would be the 50th stop.

By keeping the denominator as a constant divisor and dividing it into the dividend (product of miles times goods distributed) for each branch a quotient is established which is an actual percentage factor directly related to the TOTAL COST of the trip.

Let's walk through this one a little more slowly using the information we've compiled and presented in Figures 2 and 3. We will establish an arbitrary cost figure of $1,000.00 for the trip in this example and say our truck stopped at all three branches.

FIGURE 2 FIGURE 3

Code	Miles from Plant	Times	Qty of Goods Distributed	=	Product or Dividend
P	147	x	46,000*	=	6,762
P	186	x	24,000	=	4,464
P	217	x	30,000	=	6,510
					17,736 Sum of Products or Σ our denominator and divisor

FIGURE 4

*We will leave the three zeros (000) off our calculations because it will not destroy the numeric relationship when dropped from all deliveries, it will be much simpler to work with and easier to demonstrate.

Now to determine what per cent of the $1,000 TOTAL COST is to be applied to each branch we will divide 17,736 (Σ) into each branch's math product and obtain a quotient which is that branch's per cent of the cost to be distributed.

As you can see the percentage amount of distribution can be quickly reduced to a real dollar figure and applied directly to that branch's cost for receiving goods from the main plant.

Distb Point		% of Distb	Amount of Distb'n to each Branch
P_1	=	38.1	$ 381.00
P_2	=	26.2	262.00
P_3	=	36.7	367.00
		100.0%	$1.000

FIGURE 5

This trip cost figure balances to the amount of distribution with no need for a clearing account to handle over or under amounts which are not balanced due to the X¢ per mile method of distribution. This method also reflects a truer distribution to all branches and takes into effect not only mileage but also how much of a salable good is delivered to each branch.

Miles and Delivered Units may not be the only values you may want to weigh or use as increments preparing a distribution formula to meet your own needs. Anything which can be measured and reduced to a numeric value can be used in an equation so long as that value is respected by all points in which distribution is to be made. It must also be made a factor in *both* the numerator and the denominator of the fractional portion of the equation. This fraction establishes the percentage relationship to the dollar amount of the TOTAL COST.

As an example let us add to this main illustration an increment to the cost distribution reflecting the number of "rainy days" during the accounting period. If this extreme case were desired and we use "R" as the literal expression for "Rainy Days" the equation would look like this:

$$X = \frac{P_i \, D_i \, R_i}{\sum_{}^{n} (P_j \, D_j \, R_j)} \cdot \text{TOTAL COST}$$

$$\text{when } i = 1,2,3,4.....n$$

FIGURE 6

As you can see, the "R" has been placed in both parts of the fraction and made relative to each point of cost distribution. When substituting and working the formula there would be one more multiplier per Distribution Point; e.g., if it had rained three days in Abilene the final product value of that factor would be arrived at by multiplying miles times units distributed times rainy days or 186×24,000×3.

This equation is also versatile enough to use in other cost areas such as distribution for process costing. This, however, is a subject for another paper.

There may be any number of simple solutions available to many accounting problems by the use of algebra and math thinking applied to the problem. If there is something in the back of any reader's mind that you would like to try and you do not

have a background in "math thinking", why not express your problem in several clear statements? Take these along for a cup of coffee with one of the engineers in your plant or a vendor engineer. Chances are there will be a clear and simple solution and the engineer will be glad to help.

The equation illustrated in this paper is now actually in use. It took only about 45 minutes to explain it to several clerical employees and prepare a "work sheet" they can use in preparing cost distribution on each trip ticket. (Figure 7.) The distributed amount of each trip is then calculated and applied to a work sheet which is posted to the cost of each Branch statement at the month's end.

All of the subject Branch Managers are now satisfied that they are receiving fair cost distribution for their individual operations and that none of the other operations are receiving an unfair "profit producing" advantage. That second look at cost distribution of distributing costs has gone a long way in building a more realistic profit picture for each of this company's branches.

TRIP DISTRIBUTION WORKSHEET

Date: _____ Total Cost: _____ Trip Number _____

	LOCATION	DISTANCE	DISTB'N WGHN	$P_i \times V_i$	QUOTIENT FACTOR	$ DISTRIBUTION / BRANCH
P_1	Mineral Wells	127	x	=	x	=
P_2	Weatherford	139	x	=	x	=
P_3	San Angelo	293	x	=	x	=
P_4	Big Spring	259	x	=	x	=
P_5			x	=	x	=
P_6			x	=	x	=
P_7			x	=	x	=
			x	=	x	=
			x	=	x	=
			x	=	x	=
			x	=	x	=
				$\sum_{n}$ =	+	

BALANCE TOTAL DISTB'N T O TOTAL TRIP COST

$$\frac{\text{Total Cost}}{\text{SUM of Products}} = \text{Quotient Factor}^{*}$$

* Quotient Factor is determined by only one division step - Thus making adding machine more useful

FIGURE 7

The Economic SCENE

by J. V. Poapst,
School of Business,
University of Toronto

TRENDS IN SAVING

IS THE Canadian economy heading into a period of persistent shortages of savings? For the next five years or so will private businesses, households and governments experience some difficulty in obtaining the funds they want to finance their capital expenditures and needs for working capital? Answers to these questions depend upon the prospective demand-supply relationship for savings. If the demand is sustained, past trends in the components of total saving, the problem of unemployment and concern over foreign ownership and control of Canadian industry might lead to conditions in which a savings shortage will prevail.

The table below shows what has been happening to savings. For two sources, the personal sector and capital imports, saving is measured on a net basis. For the other two sources, the business and government sectors, saving is measured on a gross basis. The difference is that capital consumption allowances have not been deducted from gross saving totals. The two sectors shown on a net basis do not include assets for which national accountants currently make consumption estimates. The business sector includes all residential real estate. It also includes government business enterprises. Government saving is the sum of the current year surplus (or deficit) and government gross fixed capital formation, excluding the portion included in the business sector. The table divides the post-war period into halves. Comparison of values in the two parts provides an indication of the trend over the whole period.

SECTOR SHARES OF TOTAL SAVINGS AND SECTOR SAVING RATIOS, CANADA
1946-52 and 1953-59
(Per cent)

Sector	Share of Total Savings[1]		Savings as Proportion of Income or Revenue	
	1946-52	1953-59	1946-52	1953-59
Personal (net)	23.7	16.2	7.7	6.1
Business (gross)[2]	50.4	56.4	10.1	13.0
Government (gross)[2,3]	27.0	14.1	22.6	13.7
Capital Imports (net)	—0.9	12.7	—	—

[1]Total shares do not equal 100% because of omission of "residual error." Differences are negligible. [2]Capital consumption is not deducted. [3]Government saving is the sum of net surplus or deficit and government gross fixed capital formation excluding that of government business agencies. The latter are included in the business sector. Source of data for calculations—D.B.S. *National Accounts: Income and Expenditure*

The first two columns reveal changes that have occurred in the structure of savings. Personal and government savings have decreased in relative importance and business savings and capital imports have increased. From the first half of the period to the

other, personal savings declined from 23.7% to 16.2% of total savings. The government share declined from 27.0% to 14.1%, or by appreciably more than the decrease in personal saving. Business savings increased from 50.4% to 56.4% of total. But the larger offsetting change was in capital imports. In the first half of the period Canada was a net exporter of savings. In the latter half net capital imports were 12.7% of total savings. Reliance upon foreign savings is greater than these figures indicate because business savings include that of foreign controlled businesses.

The last two columns of the table show the trend in the proportions of income or revenue saved in the three domestic sectors. The saving ratios of the personal and government sectors both declined over the post-war period. The decline in the personal savings ratio was a moderate decrease from 7.7% to 6.1%. The decline in the government sector has been particularly large, however. It fell from 22.6% in the earlier post-war years to 13.7% in the latter half of the period. Meanwhile the business saving ratio increased, rising from 10.1% to 13.7%. Thus the ratio decreased for the two sectors in which only Canadian-controlled savings are generated and increased in the sector in which there are foreign-controlled savings.

In what ways do these trends point to the possibility of a dearth of savings? One way, obviously, is through a continuation of the decline in the personal and government saving ratios. The decline in the former is probably not very significant. It may merely reflect the fact that there were two recessions in the latter half of the post-war period compared to one in the earlier half. The decline in the government savings ratio is far greater. An appreciably higher proportion of government revenues is now devoted to collective consumption and a lower proportion to collective saving or investment.

There is also the possibility that the business saving ratio might increase more slowly, stop rising, or even fall in the period ahead. Part of business saving arises from corporate profit retention. It has been observed that for large corporations, at least, changes in dividends lag changes in profits and there is a particular reluctance to decrease dividends. Thus, if, because of the revival of foreign competition, profits grow more slowly than in the past, or even decline, pay-out ratios would increase thereby reducing the corporate saving ratio.

Government action might be taken which would enhance the ability of Canadian producers to compete at home and abroad with foreign business. This would tend to maintain the savings of Canadian controlled business and if highly effective even increase it. If, however, the action takes the form of strong measures against foreign investment in Canada a sizeable savings shortage might ensue.

Forecasting political policy of course is a hazardous occupation. All that will be done here is to note why an attempt might be made to repress foreign investment. With prospects for persistent high levels of unemployment in Canada in the years ahead, concern over foreign ownership and control of Canadian business might be nurtured as a political red herring. The foreign investor might be made to serve as a counter-irritant to hunger pains. Action against the foreign investor might also be taken as a means of coping with unemployment. Sustained, substantial reduction in the value of the Canadian dollar could be produced by harsh measures against foreign capital. This is not to argue that such action should be taken. It is merely to note that one approach to the problem of unemployment goes hand-in-hand with chauvinism.

COMMUNICATIONS—AN AID TO PROFITS

by G. H. Cowperthwaite, Partner,
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Toronto, Ontario.

A good management controls program aids profits by highlighting those areas of the operation that need management's immediate attention. This article discusses the techniques of communications which, if properly applied by the accountant, can produce an integrated pattern of management controls.

THE TRADITIONAL role of the accountant in industry has been one of recording. Recently, however, it has undergone many changes. The pressures resulting from an economy that has become increasingly competitive, and the insistence of management have combined to shift the accent to creativity. Reports prepared weeks after the end of an accounting period no longer satisfy management, nor do those which do little more than reveal the profit position. On the contrary, what management now demands is information on which decisions can be made, and action taken, to improve profits.

This change has resulted in the accountant having to adopt a different role. He now must communicate with operating management in such a way as to guide its decisions, not only on the basis of past history, but also using forecasts and budgets for the future.

We will now therefore attempt to analyze the present situation, to determine how accountants can, through improved management controls or communications with management, assist in maximizing profits.

WHAT DO WE MEAN BY COMMUNICATIONS?

The word has many meanings. One, which appears in the Oxford dictionary, is "imparting or exchange of information by message or otherwise." In essence, this sums up our meaning of communications in this context. The accounting function of an organization must impart to others information concerning the past and projected future performance of an organization.

Our present analysis of communications will be limited to areas that are within the accountant's sphere of influence. These include:

Management Reporting
Budgetary Controls and Forecasting
Organization Policies and Charts
Procedure Manuals
Human Relations in its broadest sense.

* An address given before the Winnipeg and Hamilton Chapters of the Society in February, 1961.

A Chartered Accountant qualified in Ontario, England and Wales, Mr. Cowperthwaite has been in charge of the Canadian Management Controls Department of Peat, Marwick, Mitchell & Co. since 1954. Prior to that time, he engaged in industrial management consulting activities in England, the West Indies and the Far East. He has lectured at Canadian universities and before organizations such as the C.A.'s and N.O.M.A., and has contributed to *The Financial Post* and other journals. He is also co-author of the *Office Management Handbook* published by Ronald Press.

While some may contend that they do not come within the usual meaning of communications, we will try to demonstrate why it is important to consider these areas more and more as a problem of communications, and why in turn they can have an important impact on profits.

WHY COMMUNICATIONS, AS DEFINED, AID PROFITS

Properly used, management reports, budgetary controls and the other techniques mentioned will produce an integrated pattern of management controls. Management controls stimulate action and make true management people, business men, of all the managers in the operation. Adequate communications (for example, management reports) increase the effectiveness of any supervisory structure and allow every manager to take a broader view of his operations. In summary, communications and, by extension, management controls, integrate, co-ordinate and materially assist in the achievement of profits.

THE PHILOSOPHY OF MANAGEMENT CONTROLS

The basic differences between normal accounting practices and the application of practical management controls are important in an analysis of how management controls can aid profits.

Traditionally, the accountant has reported past performance, frequently some time after the event. A sound management controls program not only reports performance, using some definite measurement or yardstick against which it can be compared, but also stimulates action on the part of management personnel.

Accounting, as such, usually provides a general, often stereotyped, report on events within the company, using the same format year-in, year-out. A management controls program focuses attention directly on deviations from objectives, highlighting areas of the operation that require management's immediate attention.

Accountant's and the function of accounting usually consider their job finished when figures are prepared and made available for management. The controller or other head of the management controls program regards this as merely the starting point for him to interpret and analyze these figures creatively and subsequently to assist until the appropriate management action is taken to remedy wastage or inefficiency.

Accounting focuses attention on detail and is more concerned that the books be balanced to a penny than that immediate action be taken on a serious cost problem which might be losing thousands of dollars. A true management controls system develops and records all company objectives and is constantly mindful of them, always analyzing and reporting on the fundamentally important points rather than the detail.

The philosophy, therefore, of management controls is to provide a co-ordinated program which in every way will assist management in the day-to-day and long-term operation of a business.

In order to ascertain how profits are to be improved, we must study the elements of management controls. These are many, and will vary according to the type of business. While it is not possible to discuss them at any length in this review, anyone interested in a particular phase can find plenty of material available in the publications of recent years.

MANAGEMENT REPORTING

Great advances have been made in the techniques of management reporting in the past few years. Going beyond once-a-year reports, usually prepared by the auditors, the average Canadian company now prepares at least some form of financial report on a monthly basis. Such improvements as have been made in management reporting have usually been accomplished because of management's insistence on having better information on which to base decisions. It is only recently that accountants have taken the initiative and suggested ways and means for improving reporting systems.

REASONS FOR HAVING A SOUND REPORTING SYSTEM

Above all, management needs some indicator to show how performance is comparing with estimates and, to a lesser extent, with performance of the past. Management, here, extends not only to the president and the senior levels of the organization, but down to the first level of supervision. Indeed, opinion in recent years has emphasized that adequate communications by way of financial reports to the lower levels of management are all-important if a cost control program is to function adequately.

A sound management reporting system is necessary to provide a regular report on progress. Consistency is more important than accuracy to the last cent. Too many accountants concern themselves with minor detail, holding up reports which, if presented earlier, might have more significant value to management.

Management reports provide the foundation for expense control programs, ascertainment of relationships between income and expense, cash flow statements, controls over inventory, accounts receivable and labor, and materials. There are, of course, many other uses to which a good management reporting system can be put and from which, if information is provided in a useful form, profits can result.

Of vital importance, and indeed the key reason for having a sound system, is that reports are themselves a means of communication. They are the link of information between the accounting department, acting as a service department to the organization, and all operating departments, whether they be sales, production or engineering. Reports communicate the results, the areas which require attention, and the relationship of overall performance to estimates.

ESSENTIAL ELEMENTS OF A MANAGEMENT REPORTING SYSTEM

Some of the more important elements of a management reporting system are now outlined.

Often overlooked is the need to have a realistic plan of organization to which the management reporting system can be geared. This approach is frequently termed "area of responsibility reporting", a method by which each member of the organization knows his responsibilities and his relationships to other members of the organization. Reports cover all expenses controllable by the person in a particular organizational position. When such a system is in operation, management can hold a person responsible for the financial affairs of a particular section of the organization. Properly implemented, such a method of reporting avoids the inclusion of expenses that are allocated on an arbitrary basis, or expenses which are not controllable by the individual. When reports are prepared on this basis, the individual's sense of responsibility is heightened, which often stimulates most valuable ideas for the reduction of costs or improvements in productivity.

Management reports, to be effective, must include a measure or yardstick. Frequently this takes the form of a budget, either fixed or flexible, varying according to units of production. This kind of measurement then precludes any attempt to relate current results with those for a previous year, at best a poor yardstick which tends to result in inefficiencies being compounded.

Promptness and simplicity in reporting are essential. Reports which are reasonably accurate, but prepared on a consistent basis, are more valuable than those which are accurate to a high degree but are hopelessly late. Moreover, most executives are not accountants and rebel when faced with a complexity of figures and accounting jargon. Any reporting system that has not within the past two years been analyzed and altered, as necessary to provide for maximum simplicity, is ready for an overhaul.

There are, of course, many other elements which may be regarded as essential, depending upon the type of business. Incorporation of those mentioned above will assist materially in the attainment of a sound management reporting system.

BUDGETARY CONTROL AND FORECASTING

Budgetary control is practised by many companies in Canada, frequently taking the form of a budget operating for the forthcoming year. Forecasting, or the projection of anticipated events for a period of three to ten years in advance is not so widespread, but is increasing in acceptance among management. Using effective forecasting techniques, management can build a sound organization for the future, knowing that adequate plant and machinery facilities will be available (or at least knowing when expansion will be needed) as well as the extent of financial and other requirements.

There is, as has already been indicated, a close relationship between budgetary control and management reporting. No management reporting system can be fully effective without budgets, estimates or other yardsticks being included in the reports. Doing this permits ready analysis of differences between actual and forecast performance, that is, "management by exception." I am sure we are all familiar with multi-paged reports that frequently omit key statistics, and from which no clear indication of the position can be obtained without substantial analytical work. Adequate budgetary control systems help overcome this problem and assist management in rapidly assimilating financial reports on operations.

There are many factors to bear in mind when developing a budgetary control program. These include:

1. Preparation of budgets by the persons who will be held responsible for the eventual expenditure.
2. The use of a flexible budgeting approach in areas where activity varies with volume.
3. Full acceptance by top management of the desirability and need for a budgetary control program.
4. Adequate preparation by the controller's department before the compilation of budgets commences.

ORGANIZATION

The value of a sound plan of organization has already been stressed in relation to management reporting. There is a need, however, in any organization that is hopeful

of attaining a sound management controls program to have a well-defined and balanced organization. The value of the following should be considered:

1. Policy manuals, which state the company's policy and practices in certain key organization areas.
2. Position statements, which define the duties and responsibilities of members of the organization and their relationships to each other.
3. Organization charts, which display the responsibilities of members of an organization and make them clear to all concerned.

The development of these well-defined and well-planned organization tools is not easy, but if successfully done, can help create a balanced organization, facilitate communications and thus improve profits.

PROCEDURE MANUALS

All will be aware of the value of procedure manuals. More companies today, attempting to improve clerical systems, develop procedure manuals as a by-product and keep them current thereafter.

Manuals have a value in creating an organization team. All members of a particular department for which a procedure manual is being prepared become aware of the detailed procedures within that department. Waste and clerical duplication are often eliminated as a result of the thorough analysis of present procedures that must precede the preparation of any manual. Manuals are important links in communication because they provide a clear understanding of procedures and permit indoctrination of new personnel.

OTHER MEANS OF COMMUNICATIONS TO AID PROFITS

Management controls are the base, the tools with which the accountant works. They alone are not sufficient.

As has already been mentioned, it is vitally important for the accountant to obtain action on management reports. Previously, the accountant's responsibility was thought to terminate with the preparation of the reports. Nowadays, it is considered to be his responsibility, working through other members of the oragnization, to explain reports and related variances, not only to senior members of operating management but also to junior members.

If he is to become a member of the management team, the accountant must assist in obtaining action on reports. His method of approach should include consideration of the following:

1. Adopting whatever report formats are necessary, so that reports can be readily understood by all levels of management.
2. Ensuring that adequate cost meetings are held to review reports and analyze differences with budgets and forecasts and develop recommendations for elimination of waste and inefficiency.
3. Making time to discuss and explain individual reports to whoever requests this in the organization.
4. Even when such explanations are not requested, visiting departments in the organization to discuss operations and to interpret these in the light of reports that have been prepared.
5. Generally being available to act as a member of the accounting service

organization and to provide *whatever information* might be useful to operating management.

The accountant has considerable responsibility to keep abreast of management's needs in a changing economy. That there are varying needs from year to year will not be disputed. In a time when the economy is buoyant, the accent will be on sales and meeting orders. At the same time, the accountant will need to ensure that cost control is not lost sight of nor profits lost by wasteful practices. In times of recession, management's attention is generally focused on cost control. While the accountant will need to serve management in this area, he also must continue to assist sales, particularly by providing information on order size, cost per sales call, and other data that can help the sales effort in a depressed economy.

A useful technique is to hold informal staff or department meetings to communicate the corporate picture. Such meetings should endeavour to include not only members of management but also workers. This means of communication can prove of material assistance in developing a corporate "team spirit", which, in turn, can have a marked effect on overall productivity.

Not to be overlooked are news releases, office magazines and other forms of communications. The closer the member of an organization identifies himself with that organization, the more interested he will be in assisting the company in maximizing profits.

DO MANAGEMENT CONTROLS AID PROFITS?

In order to assist in maximizing profits, the pattern of controls adopted must be realistic and geared to the needs of the organization. Over-elaborate controls, which could detract from the main endeavours of the organization, should be avoided.

In general, increase in profits will only be assisted if:

1. Controls *stimulate* action throughout the organization.
2. Controls force a *realistic appraisal of performance* versus budget.
3. Controls *highlight deviations* for attention of management.
4. Controls create a *team spirit* within the organization.
5. Controls develop an *awareness of costs* and thus of profits.

THE ACCOUNTANT'S RESPONSIBILITY IN IMPROVING COMMUNICATIONS

Firstly, the question might be asked—Does the accountant really have a responsibility for improving communications or are we building him up to too high a level and attempting to usurp responsibilities that rest with other members of management?

The accountant can play several roles in an organization. He can be a detail bookkeeper, an administrative section head, and adviser of sorts to management, or a financial member of management.

The role that he plays will largely depend upon his ability to communicate, to obtain action through communications, and to gain acceptance as an adviser from first level supervision.

There is a role for the accountant to play as a financial member of management. It is his to earn and not his by right. The whole field of accounting administration has much to offer management. Unless, however, the accountant takes the initiative,

the function will not assume its true importance and, in turn, many managements will be unaware of the full potential value of the function to an organization.

THE FUTURE

We are in a competitive economy. Many problems lie ahead of an increasing number of industries in the sixties. The need for refined, tailor-made systems of management controls will grow. In addition, competent administration (which has always been at a premium) will be sought and demanded by senior executives.

We see, therefore, the growing importance of controls at the present time. Adequate management controls will assist in achieving adequate communications. These, in turn, through enabling all members of an organization to understand more fully the workings of that organization and the deviations that are taking place from predetermined plans, will aid profits not only through increased income but, more important, through adequate control of both operating and administrative costs.

For further reading

FINANCIAL COMMUNICATION: WHAT, WHY, HOW AND WHO, by W. S. Rothwell, *The Controller*, Sept. 1960.

COMMUNICATION FOR CONTROL, by William Scholz, *Advanced Management*, Nov. 1959.

INFORMATION; THE NEEDS OF MANAGEMENT, by H. L. Bingham, *The Cost Accountant*, May 1957.

WHAT TOP MANAGEMENT AND PRODUCTION MEN WANT FROM THE FINANCE DEPARTMENT, by C. W. Allen, *American Management Association's Financial Management* Series No. 109, 1954.

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The Editor's Choice

PLANNING AND CONTROLLING AN EFFICIENT USE OF FINANCIAL RESOURCES

by S. J. Elliott, The Manager, Feb. 1961.

In this article the author speaks from experience. He states that to maintain profitability under the increasing pressure of competition is the prime concern of management. He suggests that the best measure of profitability is return on total assets employed, and that the maximizing of the ratio of profit before tax to total assets is the main aim of management. He discusses modern financial techniques that are essential in order for management to achieve its goal.

ECONOMETRICS OF MANAGEMENT

by E. G. Bennion, Harvard Business Review, March/April 1961.

For those who are interested in but skeptical of newer management techniques, this is good reading. The author examines the reason for slow acceptance of models and programming as decision-making aids. He states that the practical business man's suspicion that these models are not able to turn out *the* answer has some validity, but that their greatest usefulness lies in being able to improve management's understanding of complex questions and, at the same time, being able to demonstrate the outcome of different courses of action under differing assumptions and changing variables. The author gives examples of simple econometric models and linear programming models, and brings out the vital role that management has to play in their exercise of judgment.

COST CONTROL IN PRODUCT FEASIBILITY DECISIONS by Y. Yoshida
PRODUCT COST BROUGHT INTO FOCUS BY COMPARATIVE ANALYSIS by W. F. Kiesek
HOW TO HANDLE PRODUCT EVALUATION PROCEDURES by H. L. Clayton
N.A.A. Bulletin, Feb. 1961.

Two of these articles put primary emphasis on control of costs before production begins. This control or cost saving is achieved by proper feasibility decisions and comparative evaluations of possible product additions. The other article deals with comparative studies of product costs with the purpose of revealing inequities in costing method and also to point up products that are not as profitable as others because of some unnecessary and costly design or process.

ATORGENICS—THE SCIENCE OF MANAGEMENT

by B. M. M. Carpendale, Advanced Management, Feb. 1961.

This is a short interpretation of the theories of L. B. Kuhre who has written a book on organization. This article is worth reading if you are interested in the subject, because the author tells you enough about Mr. Kuhre's theories to make you read more. Mr. Carpendale concludes his article by saying, "At present he is a heretic, which to the 'organization man' is as bad as a charlatan. However, the points which I have touched on, although not all new, are the work of a careful, original mind . . . His work is worth the trouble of studying, not because he is absolutely right, but because he is making a serious attempt to escape from being hypnotized by present practices . . ."

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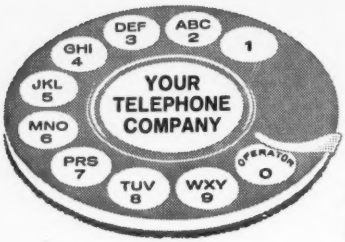

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DIRECT COSTS AND P/V RATIOS

by C. J. Minnich, Jr., Partner,
Stevenson, Jordan & Harrison, Inc.,
New York City, New York.

In today's increasingly competitive markets, management must find efficient guides for determining how much, of what product, will produce the greatest overall profit. The cost accountant can provide these tools and techniques of measurement through the use of direct costs and Profit-Volume ratios based on a whole standard cost accounting system.

I. GROWTH OF STANDARD COSTS

STANDARD COST accounting was developed by Stevenson, Jordan and Harrison in the 1920's. The experience gained in the application of this new accounting philosophy in a great variety of companies and industries made possible a further fundamental improvement in standard costs in 1928—the flexible budget.

The flexible budget recognizes the effect that volume has on fixed expenses. It is the key that unlocks the secrets of the behavior of every type of business expense.

The latest breakthrough in the field of standard cost accounting occurred in the early 1940's. This was the integration of the fundamental principles of standard cost accounting into a plan that uses direct costs, flexible budgets and profit-volume techniques.

The original standard cost approach is termed conventional or whole standard cost accounting. As the title indicates, all and every item of overhead cost is included in the costing rate per hour, irrespective of the *behavior* of the individual class of expense. In contrast, direct cost accounting employs a costing rate per hour that includes only those expenses that vary in direct proportion to the rise and fall of the volume of activity. All other overhead costs of a fixed nature (salaries, depreciation, rent, etc.) are excluded from the costing rate per hour. These latter costs, sometimes called "period costs" are written off to profit and loss at the end of each accounting period.

Over the past forty years the concept of standard cost accounting has kept pace with general industrial progress. The added improvements of direct costs, flexible budgets and P/V techniques are gaining an ever widening acceptance by industry, by technical societies and by legal and tax authorities.

Direct costs and P/V techniques supply urgently needed guidance and direction to management in an area of business that is becoming more and more complicated every day. They enable management to analyze the results of the past with greater clarity, to program future profits with greater assurance, to assign responsibility for excess costs more exactly and to disclose significant trends with greater precision.

Direct costs and P/V techniques are a refinement of and a supplement to the original standard cost principles and practices. They do not represent a new system of cost keeping or analysis, nor do they represent a radical departure from the

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Mr. Minnich is a graduate of the Wharton School of the University of Pennsylvania. He joined Stevenson, Jordan & Harrison as staff engineer in the latter part of 1928 and became a Partner in 1940. His principal activities involve investigation, development and installation of programs for profit improvement in client companies both at home and abroad. Chairman of the Systems and Procedures Task Force and a member of national technical associations, he has been a frequent speaker before trade associations and contributor to trade magazines and management handbooks.

initial reasoning of the earlier standard costs. On the contrary, they are logical improvements that lead to a better interpretation of business facts in a far more practical and helpful way than was necessary for the businessman of the early 1920's.

II. PROFIT/VOLUME RELATIONSHIP

The conversion of a conventional standard cost system to a direct standard cost system makes it possible to present profit and loss statements wherein the facts and results furnish top management with direct answers as to the profitability of the company.

Every management and every cost accountant has experienced the fruitless probing, the frantic rationalizing and the frustration and nervous tension that surround a presentation and discussion of comparative operating results of a conventional profit and loss statement such as shown in Exhibit 1.

This hypothetical company sells a single product, at one price only, which it manufactures in one plant under fairly standardized conditions. Generally, this situation is rare indeed. Yet with all the simplicity, the profit comparisons are meaningless, confusing and defy analysis.

It is most difficult for the management of this company to reconcile the fact that the $250,000 in January sales rose to $350,000 in February with the fact that the 9% profit in January dropped to 8% in February. The situation is partly explained by the rise in the unfavorable controllable variances in February. The most disconcerting revelation is that the poor volume variance in January was only slightly

EXHIBIT 1

PROFIT AND LOSS
USING CONVENTIONAL STANDARD COSTS

	January	February	March	April
Sales	$250,000	$350,000	$450,000	$550,000
Standard Cost of Sales				
Material	62,500	87,500	112,500	137,500
Manufacturing	125,000	175,000	225,000	275,000
Selling and Admin.	37,500	52,500	67,500	82,500
Sub-Total	225,000	315,000	405,000	495,000
Profit at Standard	25,000	35,000	45,000	55,000
%	10.0	10.0	10.0	10.0
Variances				
Controllable	2,500	(3,000)	(2,500)	(5,500)
Volume	(5,000)	(3,750)	10,000	(1,250)
Sub-Total	(2,500)	(6,750)	7,500	(6,750)
Actual Profit Before Taxes	$ 22,500	$ 28,250	$ 52,500	$ 48,250
% of Sales	9.0	8.0	11.7	8.8
(Determination of Volume Variances)				
Manufacturing	$450,000	$400,000	$450,000	$300,000
Absorbed	56,250	50,000	56,250	37,500
Actual	50,000	50,000	50,000	50,000
Var.	6,250	0	6,250	(12,500)
Selling and Administration				
Absorbed	18,750	26,250	33,750	41,250
Actual	30,000	30,000	30,000	30,000
Var.	(11,250)	(3,750)	3,750	11,250
Total Volume Variance	$ (5,000)	$ (3,750)	$ 10,000	$ (1,250)

improved in February, although sales volume in this second month increased 40% over January. Only after the accountant provides management with a special analysis of these volume variances (shown at the bottom of Exhibit 1) can any credence or confidence be placed in the figures. The most unfortunate feature of this "reconciliation orgy" is that management is deprived of any guidance as to how to improve the profit situation in the future. In desperation, the figures are tabled to await the results for the next month.

When the figures are presented for the month of March, management is pleasantly surprised—profits have risen from 8% to 11.7%.

However, there is little reason to be overjoyed since the analysis of the volume figures indicates that the sizeable profit is the result of not only improved sales but also of improved volume in plant operations.

When the figures for April are released, management is again shocked by the unfavorable net profits of 8.8% on peak sales of $550,000. Digging into this unhappy picture reveals that the company was "working off" peak inventories. This caused low activity in the shop which gave rise to a very unfavorable volume variance.

By employing the direct costing approach, the confusion and dismay caused by the use of conventional whole costs in the above company can be avoided. The same profit and loss figures are recast according to the philosophy of direct costs in Exhibit 2. As illustrated, the realized profit percentage rises as the sales volume rises in each individual month. This improved comparison is due to charging the actual sales made each month with the standard cost of the variable expenditures for material, labor, manufacturing overhead, selling and administration. The difference between these sales dollars and the direct variable costs provides a sum of money known as "profit contribution." The fixed costs for normal constant costs and special non-varying programmed costs that do not vary with activity as well as the variances for all expenses are deducted from this profit contribution. This remaining balance provides the actual net profit before taxes for the accounting period.

This highly desirable benefit is sufficient argument in itself for every company to give serious consideration to the adoption of the direct costing approach.

Certain companies may hesitate to move in the direction of direct costs because

PROFIT AND LOSS
USING DIRECT STANDARD COSTS

EXHIBIT 2

	January	February	March	April
Sales	$250,000	$350,000	$450,000	$550,000
Standard Cost of Sales				
Direct—Material	62,500	87,500	112,500	137,500
Manufacturing	93,750	131,250	168,750	206,250
Selling and Admin.	18,750	26,250	33,750	41,250
Sub-Total	175,000	245,000	315,000	385,000
Profit Contribution	75,000	105,000	135,000	165,000
%	30.0	30.0	30.0	30.0
Constant Std. Costs				
Manufacturing	50,000	50,000	50,000	50,000
Selling and Admin.	30,000	30,000	30,000	30,000
Variances—Controllable	2,500	(3,000)	(2,500)	(5,500)
Sub-Total	77,500	83,000	82,500	85,500
Actual Profit Before Taxes	$ (2,500)	$ 22,000	$ 52,500	$ 79,500
% of Sales	1.0	6.3	11.6	14.4

they fear complications with respect to the pricing of inventories for tax purposes. The experience of a growing number of prominent companies indicates that difficulties of this nature are negligible and can be overcome when handled in the proper manner.

III. PROFIT PLANNING TECHNIQUES

The competitive and fast-moving, present-day economy does not permit a company to continue to expand or to survive by its sole dependence on the inadequate historical analysis provided by conventional standard costs. Conventional cost procedures are too cumbersome, too unwieldy and in certain cases, too inaccurate in the complicated business atmosphere that exists today.

Every company must provide its management with the tools and techniques which will enable it to plan for growth in every area of its business, particularly in the area of net profits.

The typical whole standard cost installation provides a profit plan for a specific, single set of conditions, circumstances and situations. In order to develop a projection of profits for any variation in any of these conditions, however slight they may be, it is necessary not only to revise the raw data but also to redistribute and recalculate every figure within the entire program. This time-consuming task may take days, weeks or months—with the added risk of errors caused by the pressure to obtain the revised profit projection as soon as possible.

The answer to these objections and difficulties lies in the adoption of direct standard costs and in the use of the Profit-Volume techniques to obtain correct answers promptly.

These tools provide management with the ability to evaluate, with speed and accuracy, such profit possibilities as the installation of more and better equipment, the opening of new sales territories, the revision of price schedules, the expansion of selling organizations and the introduction of other major changes.

PLOTTING THE P/V CHART

The P/V Chart (Exhibit 3) is the keystone of all profit planning. The profit path (diagonal sloping line) is a projection of the profit possibilities, for varying volumes of sales, that exist in a profit plan that has been developed through the use of direct costing principles.

The profit path is plotted by connecting the constant cost point (posted at zero sales in the lower vertical loss scale) with the profit point (posted above budgeted sales volume opposite the upper vertical profit scale).

To assure confidence in the profit path, it is tested for accuracy by plotting the sales volume and the profit or loss figures (adjusted for planned changes) that are indicated on actual profit and loss statements for recent past months.

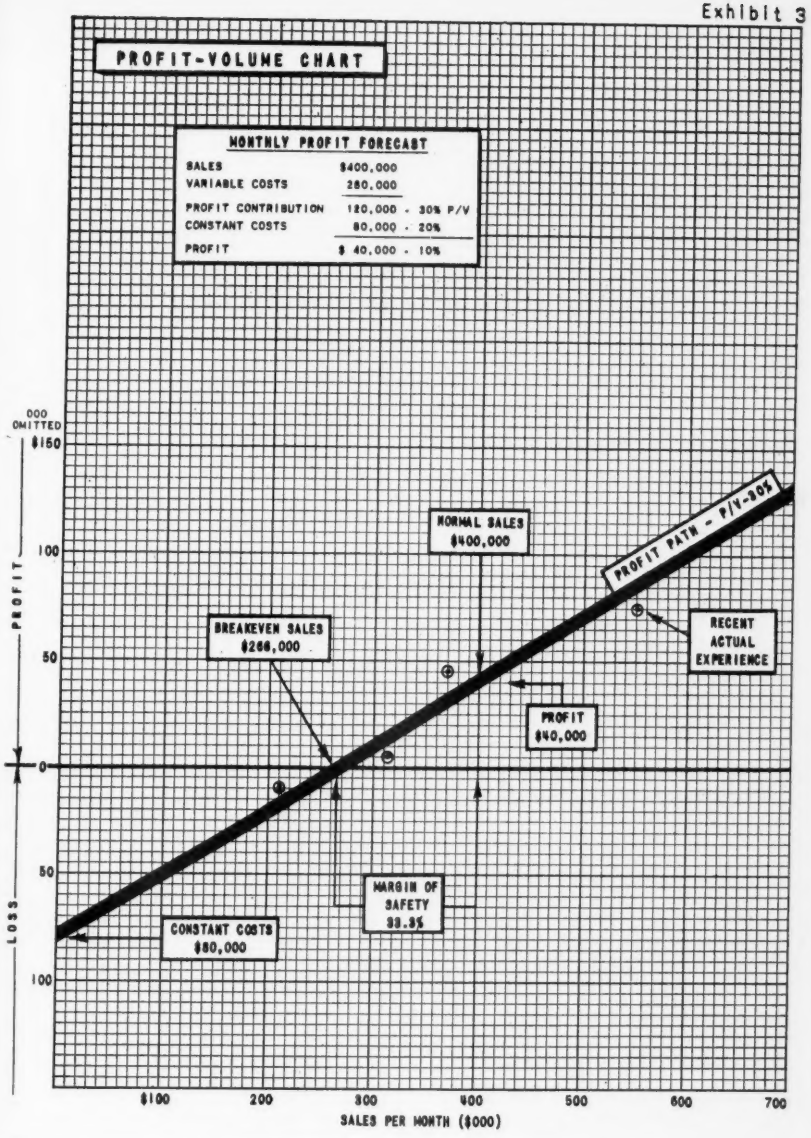
ANALYZING THE P/V CHART

The P/V Chart provides several significant facts that are of importance to top management:

1. The *P/V ratio (30%)* indicates the slope of the diagonal line. The 30% P/V means that each $100 increase in sales produces an increase of $30 in profit contribution.

   The difference between 100% and the 30% P/V ratio indicates that 70% of the sales dollar represents variable or direct costs.

Exhibit 3



The difference between the 30% P/V ratio and the anticipated 10% profit indicates that 20% of the sales dollar applies to fixed costs.

2. *The Margin of Safety (33.3%)* indicates the drop in normal sales volume that can be experienced before profits are completely eliminated.
   The margin of safety, which varies with each industry, should be large enough to protect against loss in periods of low activity.
3. The *Net Profit* ($40,000) for the normal sales ($400,000) is read directly on the chart. In addition it can be calculated by formula:
   (Normal Sales) × (% P/V) − (Constant Costs) =
   $400,000 × 30% − $80,000 = $40,000
   or it represents (P/V) × (M/S) =
   30% × 33.3% = 10%
4. The *Break-even Sales* ($266,000) is indicated graphically when the diagonal P/V line crosses the horizontal "O" profit line.
   The Break-even Sales can be calculated by the formula:

$$\text{(Normal Sales)} \times \frac{\text{(\% Constant Cost)}}{\text{(\% P/V)}} =$$

$$\$400{,}000 \times \frac{20\%}{30\%} = \$266{,}000$$

USING THE P/V CHART

The P/V chart provides top management with an extremely clear picture of the profit possibilities that are inherent in various actions that may be taken to improve the operation of the company.

Typical profit planning problems and solutions are set forth in Exhibit 4. For example:

Line A—The original planned sales volume of $400,000 per month provides a net profit of $40,000.

Line B—In the event that the company must fall in line with its major competition, by lowering prices 5%, the present planned profit of $40,000 would be reduced to $21,500, a 46% reduction in profits at the present level of operations.

To produce the same $40,000 monthly profit at these lower prices for the same unit volume, it is necessary to raise the $380,000 sales volume by 18.4%, to a total of $450,000. In the normal course of events this is a very sizeable increase that is not readily attainable.

Line C—Rather than live with a greatly reduced profit or to anticipate a large increase in sales which may not materialize, management may decide to reduce constant expenses from $80,000 to $72,000.

In this situation, the $8,000 reduction in constant costs increases the planned profits from $21,500 to $29,500, but not to the original $40,000 profit level.

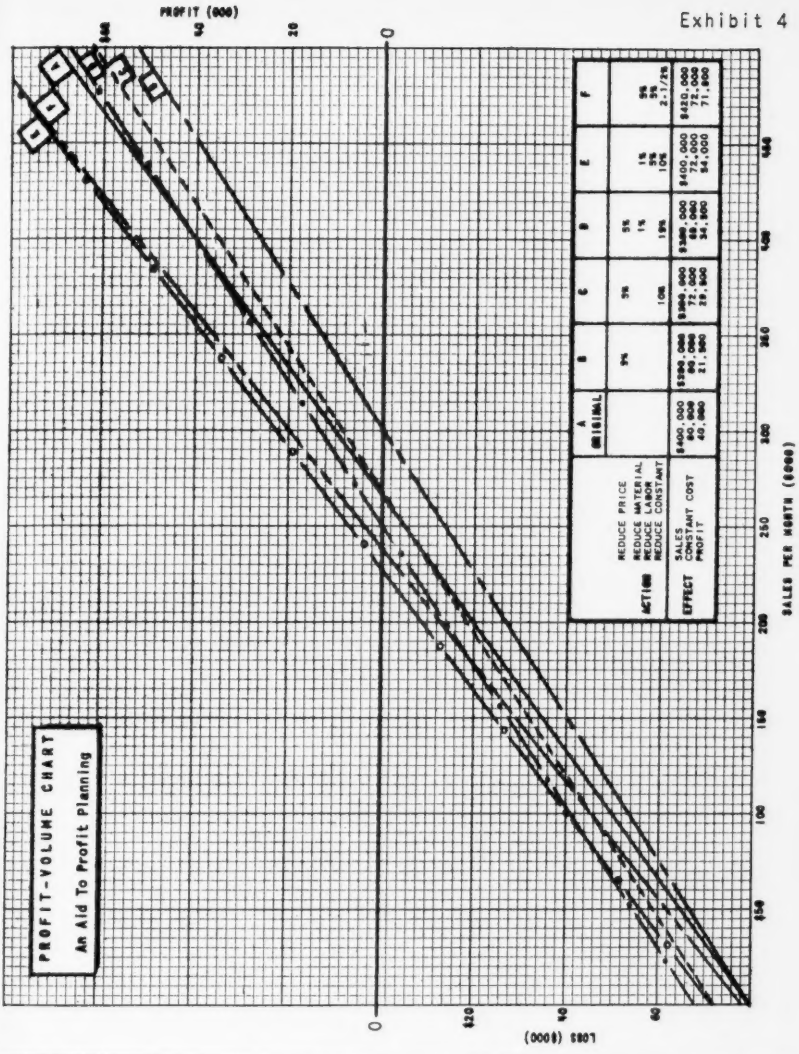
In order to achieve the original planned profit of $40,000, the new sales volume of $380,000 must be raised to $420,000—an increase of 5.5%.

Both of the foregoing changes appear practical of attainment.

Line D—If the company must face a 5% reduction in the selling price, this line shows that the $40,000 profit can be achieved if the material content of the product is reduced 1% and constant expenses are lowered 15%.

A reduction of 15% in constant expenses is a rather ambitious program that usually is not readily attainable.

Exhibit 4



Line E—Another alternative would be to continue the present selling prices and to continue the present selling prices and to tighten expenditures for material, labor and constant costs as shown. On this basis, the company would make the same $40,000 profit, provided sales did not drop more than 11.2% —to $355,000.

Line F—By continuing present prices and by lowering material, labor and the con-

stant costs of manufacturing by 5% plus the addition of 5% to the selling constant for more aggressive distribution, the company could achieve the $40,000 profit as long as sales volume did not fall by more than 8.7%.

IV. SELLING AND PRICING TOOLS

Direct costs and P/V techniques provide a more intelligent approach to many selling and pricing problems than do conventional standard costs. Several of the more prevalent situations in which direct costs provide a practical guide for top management are set forth in the following examples.

SELECTIVE SELLING

The margin of profit that is determined for each product under the conventional standard cost accounting method does not reflect the true contribution that each product makes to the over-all profits of the company.

In the example shown at the top of Exhibit 5, Product A shows 7.5% profit. Product B shows 10% profit and Product C indicates a profit of 15%. According to these figures, the company should concentrate its selling effort on the higher margin, namely 15% for Product C.

As indicated by the P/V ratios shown in the same exhibit, this solution would not provide the greatest profits for the company. In fact, Product C, which has the lowest P/V ratio, should be avoided in favor of Product A which has the highest P/V ratio.

To confirm the fact that selective selling should be based upon a concerted drive to sell those products with the highest P/V, a comparison of results for the "original and the revised plans" is shown at the bottom of Exhibit 5.

In the "original" profit plan, a profit of $40,000 is realized from the sales of 10,000 units of Product A and 5,000 units each of Products B and C.

By increasing Product A sales to 15,000 units and eliminating 5,000 units of Product C, the "revised" profit plan shows earnings of $55,000 instead of $40,000.

This increase in profits is brought about through the fact that Product A provides a much greater profit contribution than does Product C. This rather startling profit improvement is achieved without raising prices, without reducing expenses and without increasing the volume of sales.

PRICING BELOW WHOLE COST FOR PROFIT

Generally, selling prices are established by the law of supply and demand, by competition and/or by what the market will stand. Product costs, irrespective of the basis used to establish them, rarely dictate the selling price. At most, costs are a guide by which the manufacturer determines the importance of each product as a contributor to the over-all profitability of the company.

Conventional standard costs provide a wealth of information that every accountant deems essential to the satisfactory maintenance of his financial records. Unfortunately this same information fails to help top management with its pricing problems. On the other hand, direct costs and the P/V techniques give prime consideration to top management's pricing dilemmas without sacrificing any of the information that the accountant requires.

Every manufacturing company, at some time, is faced with grave competitive pricing situations for one or a dozen different reasons. When these situations arise, conventional standard costs limit management's ability to revise a price, at least to the extent of the profit markup in the product.

EXHIBIT 5

USING THE P/V TECHNIQUE FOR SELECTIVE SELLING

Individual Product Costs
(Conventional Standard Costs)

Product	A	B	C	
Selling Price	$20.00	$20.00	$20.00	(1)
Variable Cost	13.00	14.00	16.00	
Constant Cost	5.50	4.00	1.00	(1)
Profit	1.50	2.00	3.00	(3)
Profit %	7.5	10.0	15.0	
P/V %	35.0	30.0	20.0	(2+3/1)

Original Profit Plan

				Total
Unit	10,000	5,000	5,000	20,000
Sales	$200,000	$100,000	$100,000	$400,000
Variable Cost	130,000	70,000	80,000	280,000
Constant Cost	55,000	20,000	5,000	80,000
Profit	$ 15,000	$ 10,000	$ 15,000	$ 40,000

Revised Profit Plan

Units	15,000	5,000	0	20,000
Sales	$300,000	$100,000		$400,000
Variable Cost	195,000	70,000		265,000
Constant Cost	(Same Total as Above)			80,000
Profit				55,000

In contrast, direct costs, as shown by the figures at the top of Exhibit 5, provide management with a price lever that includes not only the profit margin, but also the amount of the constant cost in the product. In other words, direct costs and the P/V technique permit management, if advisable, to accept business, at lower than full cost and full profit, which on an over-all basis, will not penalize but improve the profit picture.

The direct costing approach is a further aid to management in solving major problems of utilizing the full capacity of a manufacturing plant that have an important bearing on company profits.

Some companies are faced with unutilized capacity for any one of a number of reasons. To convert this lack of volume into profits, management may consider the marketing of a companion product in a "lower price range" to cater to an untapped "bargain basement market" which would not affect the company's present volume that is sold to the "carriage trade."

The financial results of such a proposal can be evaluated very quickly and accurately through the direct cost and P/V technique.

Exhibit 6 shows that an additional $200,000 of sales of the lower priced product will increase present profits from $40,000 to $70,000. The new product is priced at $10 as against $20 for the present product. The profit on the new product is 15% of the sales dollar in contrast to 10% for the present product.

Conventional standard costs are not designed to reveal this kind of information. From a realistic, practical merchandising approach, the direct cost application maintains the exact status of the price relationship of the present markets, products and prices. It also allows the company to venture into new areas with complete safety and assurance of increased profits.

PRICING FOR PROFIT

EXHIBIT 6

Entering the "Low Price" Field

PRODUCT	A	B	
Unit Price	$20.00	$10.00	
Sales	$400,000	$200,000	$600,000
Profit Contribution	$120,000	$ 40,000	$160,000
Constant Cost	80,000	10,000	90,000
NET PROFIT	$ 40,000	$ 30,000	$ 70,000

OLD P/V — 30.0% OLD MARGIN OF SAFETY — 34%

NEW P/V — 26.7% NEW MARGIN OF SAFETY — 44%

Exhibit 6 gives effect to the slight increase in constant costs that is required to increase sales volume from $400,000 to $600,000. Several other important advantages are also indicated. For example, the margin of safety is increased from 34% to 44%, the break-even sales volume is lowered and of course profits are increased 75%.

SELECTING THE CORRECT PRICING BASE

Direct costs and P/V techniques provide management with the ability to dissect the make-up of price structures so that the greatest judgment can be exercised in planning a profit program.

The danger of relying upon the percentage of the sales dollar as the means to greater profits should be quite apparent to the reader by this time. It is quite evident also that the P/V ratio provides a better method of pricing. However, caution is advisable to ensure that the right base is used, upon which the P/V percentage is to be applied.

Most manufacturing companies will not encounter any pricing difficulties when they apply the P/V ratio to the total variable cost of a specific product. However, there are other companies where this method of pricing will become unrealistic and out-of-line with competition. This difficulty will arise where there is a very wide difference in the relationship between material costs and the processing costs of individual products. In these situations, it may be advisable to apply the P/V ratio to the variable "converting costs" only rather than to the total variable cost of both material and converting.

In the illustration shown in Exhibit 7, the management of this company was disturbed by the great variation in the profit margins shown for four of its standard products. As a percentage of the sales dollar Style 1 provided 8% profit; Style 2—23%; Style 3—18% and Style 4 only 5%. An entirely different, yet equally disturbing picture was revealed by the P/V contributions of 25%; 40%; 30% and 10% respectively.

To complicate the picture further, the end product demanded by the customer made it impossible for the company to exercise any degree of control over the ultimate cost of the material required in the product. For example, the equipment could be built so as to be belt driven or it could be supplied with a very expensive variable speed motor. It could be supplied as a "stripped down" single purpose machine or it could be developed, through attachments, into a multipurpose machine. These changes in material specifications required very little extra processing costs.

EXHIBIT 7

APPLICATION OF THE P/V TO THE CORRECT PRICING BASE

Product Class A

Style		1	2	3	4
Selling Price		1,200	2,000	2,500	3,000
Variable Cost	—Material	470	120	710	2,270
	—Converting	430	1,080	1,040	430
Constant Cost		200	350	300	150
Profit		100	450	450	150
Profit	—% **Sales**	8	23	18	5
P/V	—% **Sales**	25	40	30	10
	—% **Converting**	70	74	72	70

In order to guide management in the proper pricing of each of its products, it was suggested that a much higher P/V be applied to the "converting cost" only. The illustration in Exhibit 7 indicates that the converting cost method provided a very satisfactory relationship between the individual product P/V's.

Pricing, by means of the P/V technique, brought the company to a very significant realization—over-all profitability was tied directly to manufacturing effort in terms of employees and equipment and not to the total selling price of products nor to the total volume of sales dollars.

ESTABLISHING DISCOUNT SCHEDULES

The profit possibilities of direct costs and P/V techniques appear to be unlimited. They can be applied to every area of the business that involves fixed costs.

In the area of distribution costs, these techniques provide a sound basis for establishing discount schedules that can be substantiated by authenticated cost facts.

Exhibit 8 shows the development of the necessary data that provides the basis for a typical discount schedule.

The example illustrates the amount of money available for discounts when a delivery truck driver serves two different customers. Customer A receives an order valued at $40. After providing for the constant cost ($5) of the delivery and the standard P/V, there remains a balance of $3, that is available for discounts. On the same basis, sales of $60 to customer B provide a balance for discounts of $7.

When translated into terms of a P/V chart, these cost figures indicate that the company can legitimately establish a discount scale that would allow 3% reduction on a sale valued at $30; 8% for a $40 sale, and 10% for a $50 sale; 12% for a $60 sale and so on.

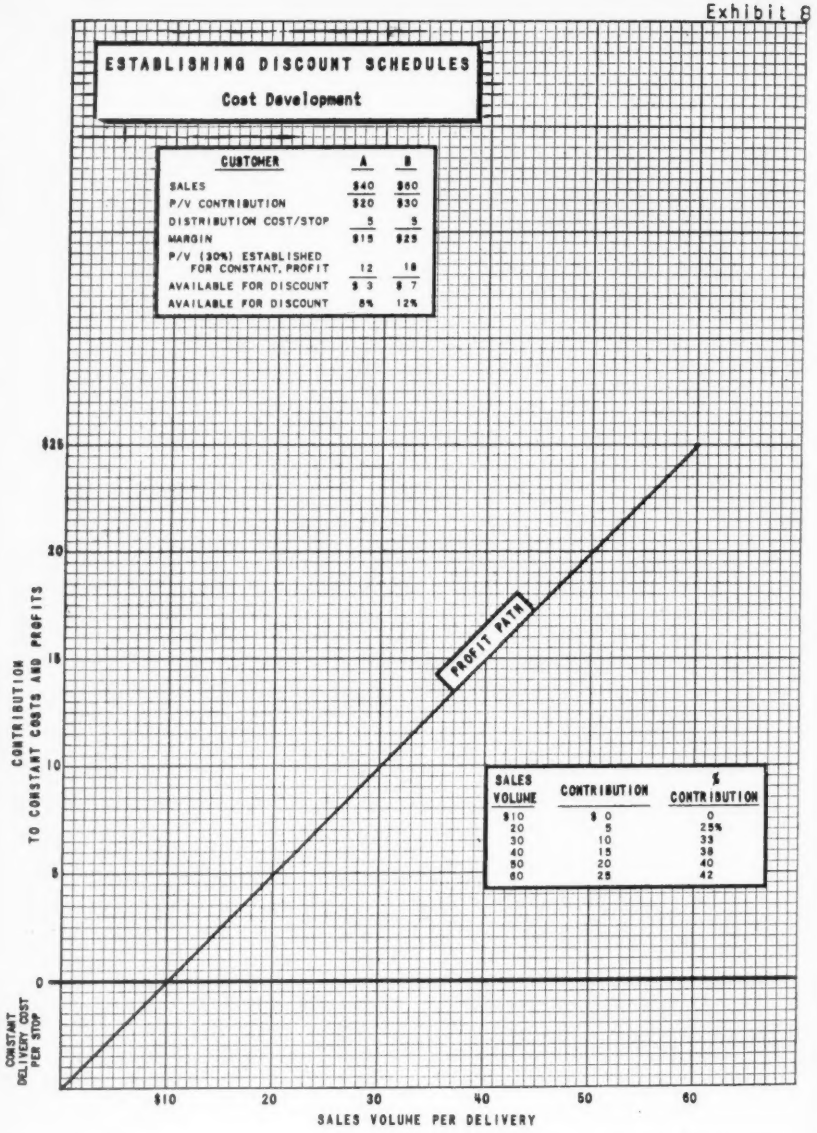
V. PROFIT ANALYSIS AND CONTROL

Control of the profits of a business is exercised through the use of two major statements—the Departmental Cost and Variance Statement and the Company Operating Statement.

With the exception that variable costs are separated from constant costs, the design of the Departmental Variance Statement is essentially the same when operating with direct standard costs as with whole standard costs.

Company Operating Statements, on the other hand, are developed under direct cost procedures so as to be of the greatest help to management by providing it with

Exhibit 8



facts by which to manage rather than with figures that serve accounting purposes only.

Exhibit 9, shows a Summary Profit Analysis and Control Sheet that provides an operating statement as well as the details that reconcile the actual profits with the forecast profits.

The key figures in the operating statements are the profit contribution made by each product line, the total of all variances and the net profit.

One of the significant advantages of the direct cost method of presentation is the ability to indicate the profit contribution of individual segments of the business. In an electrical company, analysis may be by products such as fractional horsepower motors, heavy duty motors, generators, transformers, etc. In a fully integrated container company it may be timber operations, pulp mill, paper mill, bag factory, fibre box factory and corrugated box factory.

In Exhibit 9, the difference between the planned profits ($40,000) and the actual profits ($26,000) is analyzed for each product line and for the grand total, by major causes shown at the bottom of the sheet.

The few, but vital, figures on this statement enable management to decide where its efforts must be directed in order to overcome unfavorable variances. A more detailed analysis of each variance has been excluded from this statement intentionally. Greater detail would serve to confuse and to detract from the basic intent of

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EXHIBIT 9

PROFIT ANALYSIS AND CONTROL

Operating Statement

Product Line	A	B	C	D	Total	% of Actual Sales
Sales—Forecasted	$150,000	$100,000	$75,000	$75,000	$400,000	
Sales—Actual	125,000	79,000	84,000	72,000	360,000	
Direct Variable Cost	96,000	56,000	48,000	42,000	242,000	
Profit Contribution	$ 29,000	$ 23,000	$36,000	$30,000	$118,000	
%	23	29	43	42		33
Constant Costs					80,000	22
Standard Profit					38,000	11
Variances					(12,000)	(4)
Actual Profit Before Taxes					$ 26,000	7

Analysis of Variance From Forecasted Profit

						Total Variance
Forecasted Profit					40,000	
Actual Profit					26,000	
Total Variance						(14,000)
Markup	5,000	(1,000)	4,000	2,000	10,000	
Sales Volume	(6,000)	(6,000)	2,000	(2,000)	12,000	
Merchandising Var.	(1,000)	(7,000)	6,000	—		(2,000)
Material Usage					(5,000)	
Mfg. Labor and Exp.					(5,000)	
Selling and Admin.					(2,000)	
Operating Var.						(12,000)

the statement—to give direction to top management in major areas such as the following:

> In the merchandising effort, Product A shows a net loss due to the fact that increased markups apparently reduced actual volume below the forecast. In Product B, a reduction in selling price did not stop the decline in sales volume. Product C accounted for gains in both price and volume, while Product D shows offsetting gains and losses.
>
> The large losses registered in the operating end of the business indicates to management that major emphasis must be placed on the improvement of manufacturing processes to reduce the excess costs of materials and converting operations.

VI. SUMMARY

The fundamental philosophies and objectives of conventional standard costs are as sound and as reliable in today's space age atmosphere as they were nearly a half a century ago at the close of World War I.

Yet in order to expand profit-wise in the ever narrowing and highly competitive markets of today, the cost system must provide management with all the advantages built into conventional standard costs plus additional tools and techniques that will enable it to plan for and to produce greater profits. These instruments must be designed so that management itself can use them in its day-to-day profit planning, in its daily solving of pricing problems and in its every-day control of expenditures.

To achieve this goal management must fortify its present whole standard cost accounting with direct costs and P/V techniques.

In the past, many businesses were fortunate enough to prosper through the introduction of new products and the penetration of untapped, virgin markets. Today, efforts in these same directions are proving more and more difficult as profit-producing media. Therefore, assured continuance of the former rate of profit growth makes it imperative that management employ the very best in cost accounting. Management must employ practices that will help and guide it in determining how much, of what product, will provide the greatest overall profit. These tools and techniques are provided by a standard cost system that embodies direct costs and P/V ratios.

For further reading

PROFIT CONTROL FOR MANAGEMENT, by L. J. Smitten, *Cost and Management*, Sept. and Oct. 1959.

BOUNDARIES AND POTENTIALS OF REPORTING ON PROFIT-VOLUME RELATIONSHIPS, by Carl T. Devine, *N.A.A. Bulletin*, Jan. 1961.

DIRECT COSTING—PROFIT MEASUREMENT, by Wilmer R. Wright, *N.A.A. Bulletin*, Sept. 1959.

The Thorne Group Ltd.

MANAGEMENT CONSULTANTS

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TOPICAL comments

LOOKING AHEAD

New market for asbestos fibre may open up as the result of experiments that have been carried out in Canada and the U.S. with road-paving techniques. The addition of 2 to 3% asbestos fibre to standard asphalt mix produces a stronger, more flexible and resistant pavement, engineers claim. Canada, which now produces more than two-thirds of the free world's annual 1.5 million ton production, can expect to benefit substantially from an estimated yearly increase in asbestos production of one-half million tons if the new process is widely adopted. (*Can. Bus.*, Mar. 1961)

Portable transistorized receivers for the travelling business and professional man are on trial in New York. The apparatus enables them to keep in touch with the office by emitting a signal when the receiver's number is dialled from head office. The carrier signals an acknowledgement and then contacts his office from the nearest telephone. (*The Controller*, Apr. 1961)

Sales of natural gas and derivative products are expected to reach more than $270 million annually by 1965. The estimated three trillion cubic feet per day of production expected by then would have a heat energy equivalent to 530,000 barrels per day of crude oil—almost exactly the amount of Canada's total production of crude oil and natural gas liquids during 1960. (*BA News Release*)

Canadians are a nation on the go. This year they will spend $1,200 million on new automobiles and the five million vehicles then on the road will travel some 42,000 million miles. Governments at all levels spent $1,300 million on highways and streets in 1960-61 and will spend $300 million more this year to keep traffic moving. (*FP*, March 25/61)

OF GENERAL INTEREST

The cost of hiring and training people is rising. The University of Minnesota has found that the average cost of personnel processing was $77.65 per employee in 1959 as compared to $48.59 in 1952. For example, the average cost of processing applications for the job of salesman is $60 per hire; for engineers—$20; for plant managers—$84. Indoctrination costs can range from $18 per half-day training program for unskilled workers to $3,700 for a two-week management trainee course. (*Dun's Rev.*, Feb. 1961)

The average Canadian family unit earned about $5,225 annually (approximately

$100 weekly) in 1960 according to a projection of DBS figures for 1959. Some average weekly clerical salaries in major Canadian cities compare as follows:

Office Occupations	*Montreal*	*Toronto*	*Winnipeg*	*Vancouver*
Accounting Clerk, Sr.—Male	$86.52	$89.23	$ —	$91.78
Bookkeeper, Sr.—Male	89.32	90.14	84.04	98.29
Cost Clerk, Sr.—Male	90.05	85.14	65.88	94.57
Secretary, Sr.—Female	75.42	73.24	62.28	70.63
Accounting Clerk, Sr.—Female	70.59	67.32	—	71.36
Typist, Sr.—Female	55.40	56.02	46.99	54.54

These figures are as of October 1959. About 2.7% should be added to any salary in the table to approximate current rates. (*Off. Admin.*, March 1961)

The ten top plants of 1960 picked by *Factory* magazine as the best and most modern had many features in common. Some of the main features were:

- Only one plant was built in the city. Three were in the suburbs and the rest were in rural settings.
- Only one was over two stories in height. Most had one story only in plant and office while four had two-story offices and two had one and two stories combined in the plant.
- Most of the buildings were rectangular in shape or combinations of rectangles, with others ell and tee. Concrete was the favored material while office walls were largely glass.
- Elevators were done away with in most of the plants while basements disappeared or shrank in most cases to service proportions only.
- Only three were virtually 100% air conditioned in office and plant. All had some type of air conditioning in the office while only three had no type of air conditioning in the process department.
- Seven of the plants had complete cafeterias while nine of the ten had vending facilities. (*Factory*, May 1960)

ON THE PERSONAL SIDE

The question of business ethics, highlighted by the recent conflict-of-interest troubles in the U.S., has set many companies to worried introspection regarding the loyalty of their key executives. The heat of the issue is illustrated by the results of an American Management Association attempt to call a meeting on this subject this spring. All 30 of the executives who had been asked to speak bowed out. Despite this reluctance to discuss the problem publicly, much activity is going on behind the scenes. Some 25% of corporations surveyed have already checked key personnel and another 15% have plans to do so. One of the chief loyalty-probing devices is the questionnaire. Some sample questions:

Do you or any near relative:

1) Serve as a director, officer or committee member of another corporation?
2) Own stock or other interests in any supplier, customer, or competitor (omit under 1% interest in publicly traded stock)?
3) Receive any fees, gifts, or loans of money or services from any supplier, customer or competitor?
4) Deal in supplies, leases or equipment that are purchased or sold by this company? (*Bus. Week*, Mar. 25, 1961)

HUMAN RELATIONS PROBLEMS OF THE ACCOUNTANT*

by Noel A. Hall,
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This age of specialization brings with it human relations problems in industry, the author points out. If the staff expert and the line officer are to co-exist in harmony, certain tensions and misconceptions must be worked out. To the industrial accountant, as representative of the specialist group, the author gives valuable advice on solving these problems.

PERHAPS the outstanding characteristic of our mass production industrial society is its dependence upon specialization and division of labor. As industrial units increase in size, they also increase in degree of specialization and complexity. Specialist groups emerge to assist the line organizations; to provide it with specialized information and recommendations for action. A quick run-down of the organizational chart of any fairly large company will reveal the existence of specialists in: (1) manufacturing—product planning and development, methods and time standards, production control, quality control, materials handling; (2) sales—market research, product promotion, advertising, customer services; (3) accounting—cost accounting, internal auditing, budgeting, machine accounting, and income tax specialists. Some specialized fields in business have even begun the process of sub-specialization. Instead of, for example, a specialized personnel department, many firms have sub-divided the function into labor relations, job analysis and evaluation, employment services (interviewing, etc.), employer records, safety, training, employee counselling. All this is to say that roughly since the end of World War II, the outstanding characteristic of modern industry has been the emergence of the "expert."

This is not a criticism. The division of labor and functional specialization that pervades our society breeds the specialist and the expert. He is truly a product of the structure of our society. We could not get rid of experts if we wanted to—they are built into the specialized niches and jobs that make up our industrial society. The problem then is not — "How can we get rid of experts?" but rather — "What special human relations problems does their existence create for industry?"

THE CHARACTERISTICS OF SPECIALIZATION

The emergence of each new specialized group in industry gives rise to an attempt to "professionalize" the field. An association is formed; an educational program is evolved; and some kind of exclusive certification is sought. This process is apparently

* An address given before the Vancouver Chapter of The Society in October, 1960.

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unending and it gives rise to the basic human relations problems that exist throughout industry between "line" officers and "staff" specialists. Let's take a look at the characteristics of experts in industry:

1. SPECIALIZATION IS CHARACTERIZED BY "TRAINED INCAPACITY"

The expert is not only expert in one field but, by virtue of his expertness, he is inexpert or ignorant in other fields. The intensity of his training in one field means that training in other areas is usually neglected. He approaches the problems he is called upon to solve from the limited perspective of his training. The administrator responsible for a group of specialists has before him then a series of viewpoints, each representing the limited perspective of several specialists. He has the problem—the human problem—of evaluating the total situation and of resolving the conflicting viewpoints of several specialists. Each of these viewpoints may be correct within the confines of its perspective—but none may be correct in terms of the total situation. For example, the budgeting specialist may be recommending a course of action to control expenditures; the product planning and development specialists may be planning for increased funds for product research; while still another group —advertising—may be pushing for added funds for promoting existing products. Each, from its limited perspective, may be working on the same problem—that of increasing the profit picture. But each uses a different frame of reference for solving the problem.

It is not by chance that the phrase, "We must sell ourselves to management" is so characteristic of staff people. What they are saying in effect is that, "Our perspective is the correct one for solving the problem." This is a perfectly human reaction, particularly in view of the "trained incapacity" of most specialist groups.

2. SPECIALIZATION IS CHARACTERIZED BY THE DISTINCTIONS BETWEEN "EXPERT" AND "NON-EXPERT"

The most interesting expression of this characteristic is the evolution of a special jargon understood only by those possessing similar expert knowledge. In this way, the specialist tends to keep consumers of his expertness ignorant about his methods and knowledge. In this way, his status is tied to the exclusive knowledge he possesses. This again is a human trait but, for the accountant, it creates special kinds of human relations problems. There is always the danger of the "patient becoming his own doctor" if he learns too much about the doctor's techniques and methods. The importance of this last point to the expert in accounting should not be overlooked. The consumer of his special talents in an organization is the executive or administrator. Lay people (the line organization) tend naturally to be suspicious of things they do not understand. It follows therefore that this lack of understanding creates not only suspicion, but also rejection of the accountant's suggestions as an encroachment upon the authority of the line officer. This seems particularly true in budgetary and cost control activities. By relying upon a highly technical jargon and by maximizing ignorance of line officers, accountants, as a specialist group, may be improving job opportunities for themselves but, at the same time, may be making it more difficult for line officers to appraise their worth to the organization. Ignorance operates to protect the specialist from competition, but it may also create communication problems preventing industry from getting the benefits of that special knowledge.

THE RESULTS OF SPECIALIZATION

The characteristic of "trained incapacity" and distinctions between "expert" and "layman" create human relations problems for the accountant, as well as for any other expert group in industry. Many of the problems in this area seem to be related to our failure to accept one or two basic facts of industrial life. We in industry seem to believe we can solve questions of the relations between "line" and "staff" by saying that the specialist's role is purely advisory. Let me quote Col. Urwick on this point:

> ". . . The difficulty cannot be dodged by describing the specialist's authority as 'purely advisory.' This phrase is a nonsense, a classic in wishful thinking. It was invented to mollify infuriated 'line' managers, like nurses making clucking noises at babies. Chief executives do not appoint, and boards of directors do not allow them to appoint extensive specialists in order that the 'line' managers may please themselves as to whether they listen to them or not.
>
> ". . . They are there in order that the whole undertaking may have the benefit of their specialized knowledge whenever and wherever matters arise within the field in which they are specially knowledgeable."

What seems to happen in most organizations is that accountants and other specialized groups usurp, on an informal basis, the authority of line officers. Expert staff exerts an informal authority over the line in the following ways:

1. The staff man's advice, by sheer weight of technical competence, takes on the characteristic of an implied command.
2. The line officer feels that advice from high-status, front-office people cannot be taken lightly. The advice is received as something more than advice—to be accepted or rejected.
3. Staff people were created by the president's office. They, therefore, transmit along with their advice, the potential threat of force from the president's office.
4. Staff people tend often to withhold their advice until the last possible moment which often means that it must be accepted because of a lack of time for analysis.

Developments of this kind naturally lead to a great deal of friction between staff experts and line officers. The basic problem seems to be that staff experts have not pressed hard enough for a clear-cut definition of their roles in the industrial organization. Conversely, the defensive tactics adopted by most expert groups place an aura of suspicion around them. The need for defensive tactics may be reduced somewhat by pressing for a clearly defined area of functional authority. For example, if the top management in the line agrees that uniform financial procedures should be followed throughout the organization, and lower levels are informed of these policies and procedures, then top management expects its accounting specialists to take the necessary steps to enforce these procedures. The specialist group that allows its efforts in this area to be frustrated by the line has no one to blame but itself.

IMPLICATIONS FOR THE INDUSTRIAL ACCOUNTANT

Human relations problems of this kind are particularly significant to the industrial accountant. Let me give you some examples of why there is real need for a clear distinction in this field—a distinction to make clear the extent of the accountant's

functional authority:

In the area of budget administration, not so much capital as departmental operating budgets, the line manager probably sees the industrial accountant as performing a policing function over his expenditures. He probably sees the accountant as a "controller" of his activities, rather than an "adviser" on his expenditure problems. This strikes me as an unnecessary complication in the accountant's relations with the line. It springs from a lack of understanding of his role in budget administration, but it tends to "color" all his relations with line officers.

For example, can he be as effective as he might otherwise be, say, in recommending areas for cost reduction? To be effective in this area requires close cooperation with the line and cannot be done effectively in an atmosphere of antagonism. This would suggest that his "policing" role and his "advice"-giving roles are largely in conflict—the first preventing him from doing an adequate job in the second.

In a similar way, many accountants are called upon to perform the dual role of cost accounting and developing measures of line performance. Does this duality not place them in a difficult human relations situation? How can they expect close cooperation from operating personnel, for example, in developing better cost accounting procedures when they are also charged with developing better measures of line management performance? Does not this cooperation with accountants on cost accounting matters enhance the risk of the accountant ferreting out weaknesses in the line?

I would suggest to industrial accountants that their major human relations problems spring from:

A. Complications inherent in the "specialization" system of modern industry.
B. Failure to recognize the need for a rigid functional definition of their role in the industrial concern in light of the complications inherent in specialization.

SOME TIMELY ADVICE

Let me suggest a few simple guidelines that may help to reduce the accountant's human relations problems.

1. Remember that technical specialists can dream up changes much more rapidly than they can be assimilated by operating personnel.
2. The staff specialists who introduce or propose changes must recognize that their proposals are based on a culture that usually is made up of a higher educational level than that which characterizes the line.
3. As much as possible, the changes proposed must be stated or framed in language that is understood by those who must administer the change. Clear statements in non-technical jargon must characterize the proposals.
4. As much as possible, the changes must be examined in terms of their meaning to the line organization. What areas of traditional authority does the change threaten? What behavior patterns will be disrupted by the change? What frustrations and new tensions for the line organization will be created by the proposals?
5. Recognize always that the line organization looks upon the specialists as the "Johnny-come-latelies"; the experts with all the answers. Changes must be introduced slowly and, as much as possible, they must enjoy the acceptance of the line organization.

S.I.C.A. News

THE SOCIETY OF INDUSTRIAL & COST ACCOUNTANTS OF CANADA

INCORPORATED 1920

THE EIGHTH INTERNATIONAL CONGRESS IN 1962

The following are excerpts of releases from the office of the executive of the

Eighth International Congress of Accountants
270 Madison Avenue, New York 16, N.Y.

"The largest meeting of professional accountants in history will occur in New York September 23-29, 1962, when the Institute will be host to the Eighth International Congress of Accountants and the Sixth Inter-American Conference on Accounting.

"This will be an opportunity for CPA's to make friends among accountants from all over the world. International viewpoints on accounting, auditing and financial reporting, for both public information and management-control purposes, will be exchanged and put on the record. It is hoped that the meetings will strengthen the foundation for the vast extension of international accounting practice which thoughtful observers believe will result from burgeoning international investment and trade in the next few years.

"Top government officials, business leaders and representatives of other professions will be among the speakers and guests. International leaders of accounting thought will deliver papers and take part in informal discussion groups of twenty or thirty persons.

"The theme of the program is the relationship of the professional accountant's major functions—accounting, auditing and financial reporting—to the world economy.

"Speakers will address themselves to the proposition that:

" 'The world economy is dependent on the flow of capital, international trade, and management skilled in the organization of personnel and use of tools to produce goods and services wanted by the people. The flow of capital is stimulated by the opportunity for profit and confidence in the political and economic stability of the countries comprising the free world.'

"Each speaker will show how accountants can contribute to improvement of the world economy— either through facilitating the flow of capital and trade, or improving management efficiency in the production of goods and services.

"**ACCOUNTING AND THE WORLD ECONOMY** will be discussed in terms of the postulates and objectives underlying accounting principles and the purposes of accounting in the economy. Influences exerted on accounting by government laws and regulations and by fluctuations in the purchasing power of the monetary unit will be considered. Proposals will be suggested for the development of a broad forum to further understanding and acceptance of needed changes in accounting principles on a national and on an international basis.

"**A DISCUSSION OF AUDITING AND THE WORLD ECONOMY** will deal with the responsibilities of the internal auditor, the independent accountant, and the relationship of their activities to each other. Speakers will give their views on whether or not wide variations in auditing standards throughout the world affect the international flow of private investment capital. They will also consider the independent auditor's contribution to an understanding of changes that have taken place in the free enterprise system over the past 50 years. The growth of broad services by management to customers, employees, and investors, as well as an awareness by the 'common man' of his stake in competitive enterprise, will also be reviewed.

"**FINANCIAL REPORTING AND THE WORLD ECONOMY**, the third major topic, will cover the usefulness of financial reports to the various consumers for which the reports are prepared. Standards of disclosure and the nature of outside influences on financial reporting will be considered.

"Principal speakers at the opening plenary session will give broad treatment to the three major topics. This session will be followed by approximately ten simultaneous sessions, each with three speakers who will develop these basic topics in greater depth.

"To bring everyone into the general discussion, there will be 50 to 100 smaller informal discussion groups, each limited to about 25 participants.

"The response to our announcement letter mailed in December to organizations abroad has been most gratifying. To date a number of them have written us indicating that more than 600 of their members plan to attend. Naturally, we await word from those orgnizations which have not yet responded with keen interest. Coupled with the 1,400 accountants in the U.S. who have already told us that they will be present at the Congress, this enthusiastic response leads us to believe that there may be more than 4,000 accountants in New York in September 1962 from almost every major area and accounting organization in the world."

If you plan to attend this important event, communicate directly with Congress at the above address. Please advise S.I.C.A. National Office so that we can indicate the size of representation from the Society.

CHAPTERS AND MEMBERSHIP

S.I.C.A. Area Activities

About two years ago the National Board, upon the recommendation of the Chapter Activities' Committee, approved a new concept of "area" organization. This type of organization was designed to serve the needs of members not affiliated with any chapter and those residing too far from their chapters to attend meetings frequently.

Since that time, several experimental meetings have been held along these lines with most encouraging results.

The most recent area meeting was held in Sarnia on March 16 by local members and three neighbouring chapters—London, Kent County and Windsor. Though there is a considerable number of members in Sarnia, this is the first time a formal meeting has ever been held there. About 120 persons attended this combined plant visit and general meeting, which was open to other local business men as well as to members of the Society. Both members and non-members expressed so much enthusiasm for the continuance of such meetings that consideration is now being given to the formation of a Sarnia Chapter.

Last year the Toronto Chapter sponsored a similar type of meeting in the Barrie-Orillia area for members residing in an area 100 miles north. This meeting was so successful that another one will be held there in May after the examinations are over.

TORONTO CHAPTER STUDENT GROUP TOURS MacLEAN-HUNTER PLANT—For its final meeting of the year on February 2, the Student Section of the Toronto Chapter toured the plant of Maclean-Hunter Publishing Co. Ltd. in Toronto. About 110 students attended the meeting and a group is seen here inspecting the equipment. A brief rundown of the accounting system was given by Accountant Norm Whipfler of MacLean-Hunter.

As a result of the encouraging reports the Society has received from other chapters and provincial Societies which have tried out this idea, "area" development is being included in plans for next season's activities. Periodic meetings of this kind can do much to extend the Society's frontiers into outlying areas and to prepare the way for the ultimate establishment of new chapters.

Inter-Chapter Competition

TOP FIVE CHAPTER STANDINGS AS AT MARCH 31, 1961

Chapter	Member-ship Points	Chapter Report Forms	Programs	Manu-scripts	Member-ship Mtce.	Total
Oshawa	1360	56	300	1000	148	2864
Moncton	1520	24	300	200	663	2707
Winnipeg	1616	56	300	480	128	2580
Saint John	1360	56	300	400	188	2304
Grand River	1692	56	300	—	120	2168

Since the last announcement of chapter standings, the final point factor—membership maintenance—has been computed. This cannot be calculated until member deletions have been received from each provincial Society.

Although the same chapters appear in the top five positions, their relative standings have changed somewhat.

Final results of the competition will be announced next month and the Chairman of the winning chapter will be invited to attend the National Conference to receive the National President's Trophy.

OBITUARY

The Society notes with regret the death of Dr. Jean Caro in Montreal on December 28, 1960. He was 37. Dr. Caro was a member of the Montreal Chapter of the Society and a contributor to **Cost and Managment**, as well as to many other journals including **The Canadian Chartered Accountant, The Certified General Accountant** and **Office Equipment and Methods.**

Comptroller of Service Backing & Coating Corp., Montreal, until his death, Dr. Caro had held accounting and administrative positions in Montreal since 1952 and had also engaged in consulting work. He was a Certified General Accountant, a Doctor of Law and a Fellow of two English Accounting Societies. He was also a member of The Canadian Credit Institute, a Fellow of the Institute of Linguists of England, and a member of the Montreal Translation Society, in which capacity he was an official interpreter in French, English, Italian and German.

Dr. Caro was born in Yugoslavia of French parentage. His formal university studies in France were interrupted during the war when he was imprisoned in a Nazi concentration camp. He escaped and in 1944 joined the British European Forces, Central Mediterranean Theatre, as an Interpreter and Administrative Officer. He remained with the British Army until 1947 when he became a Resettlement Officer for the American Joint Distribution Committee. During this time he followed advanced studies in accountancy, law, administration and management, studies which he had continued upon coming to Canada.

His ambition was to serve the accounting profession and this he did unstintingly and unselfishly through his writings and personal endeavours. With his death, the profession loses a fine and dedicated talent.

PUBLICATIONS AND TECHNICAL SERVICES

Some of the recent books the Society now has for review are listed below:

Basic Statistics for Business Economics
by C. Frank Smith and D. A. Leabo—Irwin.

Canadian Economic Policy
by T. N. Brewis, H. E. English, Anthony Scott and Pauline Jewett—MacMillan.

Case Problems in Finance, 3rd Edition
by Hunt, Williams, Porterfield, Langer and Vandell—Irwin.

Credit and Collection Letters: New Techniques to Make Them Work!
by Richard H. Morris—Channel Press.

Decision Models for Inventory Management
by Robt. B. Fetter and Winston C. Dalleck—Irwin.

Introduction to Statistics for Business Decisions
by Robt. Schlaifer—McGraw-Hill.

Introductory Accounting
by R. D. Kennedy and F. C. Kurtz—International Textbook Company.

Mathematics of Accounting, 4th Edition
by Arthur B. Curtis and John H. Cooper, Rev. by Wm. J. McCallion—Prentice-Hall.

Organization & Methods—A Service to Management
Ed. by G. E. Milward—MacMillan.

Planning Production, Inventories, and Work Force
by Holt, Muth, Modigliani & Simon—Prentice-Hall.

Studies in Company Finance
Ed. by Brian Tew and R. F. Henderson—Cambridge University Press.

Work Improvement
by Guy C. Close, Jr.—Wiley.

If any member is interested in reviewing one of these for **Cost and Management**, please let us know and we will be glad to send it to you.

CONFERENCES AND SEMINARS

Now that the last of the spring seminars has been held, there remains only the National Conference in Vancouver before conferences and seminars are concluded for the summer months. The complete program for the National Conference appears on the inside front cover of this issue.

The Executive Development Committee will hold a meeting at the National Conference in June to complete plans for the 1961-62 Executive Development Program. As soon as these plans are finalized, an announcement of the seminar program will appear in **Cost and Management.**

STUDENTS AND COURSES

EXAMINATIONS 1960
ACCOUNTING II

QUESTION 5 (20 marks)

A. Co. Ltd., incorporated under the Companies Act (Canada), had the following accounts in the ledger at its fiscal year end, April 30, 1959:

6% redeemable preferred shares, $100 par value (Redeemable at $105)	$ 50,000
Premium on preferred shares	1,000
No par value common shares	100,000
Sinking fund for bond redemption (bank)	41,000
Bonds payable	40,000
Sinking fund reserve	41,000
Reserve for future decline in inventory value	5,000
Excess of appraised value of fixed assets over cost	60,000
Reserve for replacement of fixed assets	15,000
Unappropriated surplus	45,000

During the year ended April 30, 1959—

(a) Preferred shares of $20,000 par value were redeemed. Supplementary letters patent have not been obtained.

(b) An additional 6,000 no par value common shares were issued for cash at $10 each, the minimum amount legally permissible was set up as capital.

(c) A net profit of $22,000 was earned.

(d) Dividend of 3% was paid on the preferred shares before any such shares were redeemed. After the redemption of $20,000 par value (item (a) above) a further 3% dividend on the preferred shares was paid.

(e) The bonds were redeemed.

(f) 1,000 no par value shares were issued at $10 to holders of such shares as a stock dividend.

(g) It was decided that the reserve for future decline in inventory value was no longer required.

(h) The reserve for replacement of fixed assets was increased by $3,000.

REQUIRED:

(a) Journal entries to record the above (omit dates).

(b) A statement of the individual classes of surplus for the year ended April 30, 1959.

SOLUTION 5

(a) Journal entries

		Dr.	Cr.
(a) (i)	Dr. Preferred shares	$ 20,000	
	Premium on preferred shares	1,000	
	Cr. Bank		$ 21,000
(ii)	Dr. Unappropriated surplus	20,000	
	Cr. Capital surplus		20,000
(b)	Dr. Bank	60,000	
	Cr. No par value common shares		45,000
	Distributable surplus		15,000
(c)	Dr. Profit and loss	22,000	
	Cr. Unappropriated surplus		22,000
(d) (i)	Dr. Unappropriated surplus	1,500	
	Cr. Bank		1,500
(ii)	Dr. Unappropriated surplus	900	
	Cr. Bank		900
(e) (i)	Dr. Bonds payable	40,000	
	Cr. Sinking fund bank		40,000
(ii)	Dr. Bank	1,000	
	Cr. Sinking fund bank		1,000
(iii)	Dr. Sinking fund reserve	41,000	
	Cr. Unappropriated surplus		41,000
(f)	Dr. Unappropriated surplus	10,000	
	Cr. No par value common shares		10,000
(g)	Dr. Reserve for future decline in inventory value	5,000	
	Cr. Unappropriated surplus		5,000
(h)	Dr. Unappropriated surplus	3,000	
	Cr. Reserve for replacement, fixed assets		3,000

(b)

	Balance April 30, 1958	Changes during the year Increase	Changes during the year Decrease	Balance April 30, 1959
Reserve for appraisal fixed assets	$ 60,000	No change		$ 60,000
Premium on preferred shares	1,000		$ 1,000	
Reserve for replacement, fixed assets	15,000	$ 3,000		18,000
Distributable surplus		15,000		15,000
Reserve for future decline in inventories	5,000		5,000	
Capital surplus		20,000		20,000
Sinking fund reserve	41,000		41,000	

	Unappropriated Surplus	
Balance April 30, 1958		$ 45,000
Add:		
Profit for year	$ 22,000	
Sinking fund reserve	41,000	
Transfer reserve for decline in inventory value	5,000	68,000
		113,000

Less:		
Dividends preferred	2,400	
Transfer of capital surplus	20,000	
Stock dividend, common shares	10,000	
Increase reserve for replacement, fixed assets	3,000	35,400
Balance April 30, 1959		$ 77,600

COMMENT

Many of the students overlooked in whole or in part the requirement set out under (b). The major point which was noted was that the student failed to provide details of the changes which had occurred during the year under the various subdivisions of surplus.

The journal entries required under subsection (a) were well done in general. The major difficulty encountered was the failure to present complete entries. This was the case in the redemption of the preferred shares as well as the redemption of the bonds. The transfers to capital surplus and the closing out of the sinking fund reserve were the main areas of omission. The matter of terminology was significant in that a number of the entries involved unappropriated surplus and the entries submitted used intermediary account titles and failed to reflect the completed transaction. Penalties were imposed for this. The use of an account "dividend paid" in place of debiting earned or unappropriated surplus was a common illustration.

INDUSTRIAL LEGISLATION

QUESTION 3 (10 marks)

"The North Pole Paper Mill Company Limited" issued to Racey his regular monthly pay cheque on June 5th, 1958, the cheque being dated the same day. Racey misplaced this cheque and reported to the company's paymaster that the pay cheque had been lost. Three weeks later the company, having stopped payment on the cheque at the bank, issued Racey a duplicate cheque.

Racey cashed the duplicate pay cheque and then on December 23rd, 1959, he found the original pay cheque and cashed it at "The ABC Department Store Ltd." endorsing the cheque on the back. "The ABC Department Store Ltd." had no knowledge that a duplicate cheque had been issued to Racey. When "The ABC Department Store Ltd." presented the cheque for payment to the bank, payment was refused. "The ABC Department Store Ltd." then brought action for the amount of the cheque against "The North Pole Paper Mill Company Limited".

REQUIRED:

Will "The ABC Department Store Ltd." succeed? Give reasons for your answer.

SOLUTION 3

When Racey negotiated the second cheque he did so fraudulently, and hence his title to the instrument was defective. (See Section 56, B of E Act.) And this defect in title would be the defence of the Paper Mill.

However, while a defect in title will constitute a successful defence against ordinary holders, it will not prevail against a holder in due course. The problem is whether or not the ABC Department Store became a holder in due course.

A holder in due course is a holder who has taken a bill complete and regular on the face of it under the following conditions:

(1) before it was overdue, and without notice that it had been previously dishonoured if such was the case.

(2) that he took the bill in good faith and for value and that at the time of negotiation he had no notice of any defect in title of the person who negotiated it.

It is at once apparent that the crucial point is whether or not the cheque was overdue; eighteen months had elapsed since the issuance. A cheque is defined as a bill of exchange payable on demand, drawn on a bank. Demand bills are overdue where a reasonable time has expired.

To determine this, regard should be had to the nature of the instrument and the usage of the trade as well as the facts of the particular case. However, by every test the cheque which was for wages must be said to be overdue.

Therefore, the ABC Department Store could not be a holder in due course, and as a result, the defence of a defect in title would succeed. The ABC Department Store would not recover.

COMMENTS

Almost uniformly, this question was poorly answered. The problem-type question, of which this is a good example, requires firstly, identification of the area of law affecting the problem; secondly, enunciation of the key definition or legal rule applicable to it; and thirdly, application of the definition or rule to the circumstances set out in the problem in order to arrive at a solution. The markers experienced in marking Question 3 that the area of conspicuous failure was in the second phase, the enunciation of the key definition or rule. Most students were able to come up with a correct general area—Negotiable Instruments and Bills of Exchange Act—but then went terribly astray because they failed to set down the definition in writing.

Those who recognized the key to this problem as the definition of a holder in due course (and these were few indeed), then found it quite easy to proceed to solve the question and draw the necessary legal conclusions from the circumstances. The average candidate seemed to be quite capable of memorizing bits and pieces of negotiable instruments law, but the conspicuous failure seemed to be in the candidate's ability to attack logically a problem question.

PERSONALS

GEORGE MOLLER, D. Jur., C.A., R.I.A., Vice-President and Secretary-Treasurer of H. H. Robertson Co. Limited, Hamilton, has been appointed Vice-President and Treasurer of Robertson-Irwin Limited and Vice-President and Secretary-Treasurer of Robertsteel (Canada) Limited. He continues as a Director of all three Companies.

JEAN LANCTOT, C.A., Associate Professor at the University of Sherbrooke, has been appointed a member of the Faculty of Commerce Council.

RAYMOND GARIEPY, L.S.C., C.G.A., C.A., R.I.A., of the Quebec Chapter, has been appointed Assistant Provincial Auditor of the Province of Quebec.

NOLAN HEMBRUFF, a general Member of the Toronto Chapter, has been appointed Vice-President and Treasurer of Triangle Conduit and Cable (Canada) Ltd., Scarborough, Ontario. Mr. Hembruff was formerly Assistant General Manager of the Company.

R. A. SCHNARR, R.I.A., has been appointed Budget Supervisor for Fiberglas Canada Limited. He was formerly Plant Accountant and Office Manager of the Sarnia Division. In his new position, Mr. Schnarr will operate on a Company-wide basis and will be involved in all matters requiring economic evaluation and profit planning.

E. J. S. INNES, R.I.A., formerly Cost Accountant in the Sarnia Division of Fiberglas Canada Limited, has been appointed Plant Accountant and Office Manager at Sarnia. Mr. Innes is a member of the Grand River Chapter.